



COMBAT

European Theater of Operations 1944

Panzergrenadier

VERSUS

US Armored Infantryman

Steven J. Zaloga



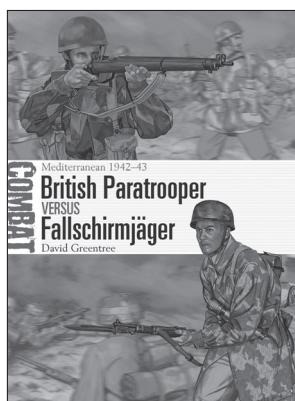
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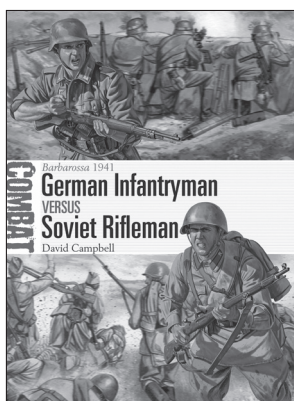
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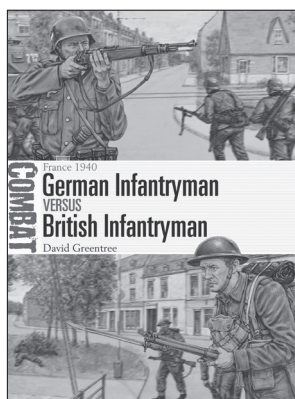
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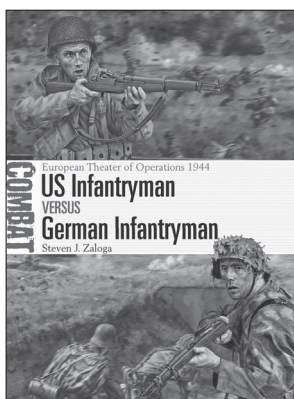
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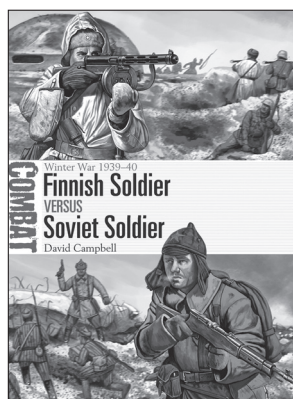
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Author's note

Unless otherwise noted, all photographs are from the author's own collection. For brevity, in the text the traditional conventions have been used when referring to units. In both armies, companies were given identifying numbers of letters that continued through the sequence of battalions in a regiment.

Editor's note

In this book measurements are given in a mixture of metric and US customary units of measurement, depending on the context. The following data will help when converting between imperial and metric measurements:

1 mile = 1.61km

1km = 0.62 miles

1m = 1.09yd

1m = 3.28ft

1m = 39.37in

1yd = 91.44cm

1ft = 30.48cm

1in = 2.54cm

1cm = 0.39in

1mm = 0.04in

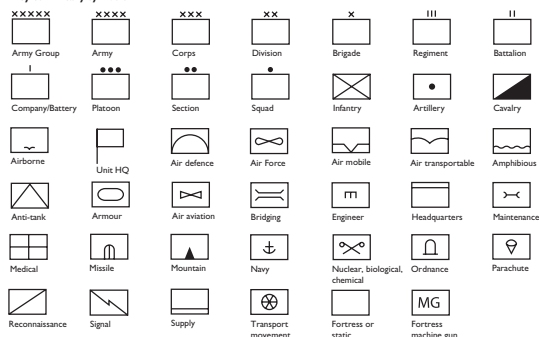
1kg = 2.20lb

1lb = 0.45kg

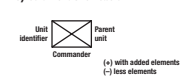
1oz = 28.35g

1g = 0.04oz

Key to military symbols



Key to unit identification



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Introduction

Tanks revolutionized land combat in World War II. Yet tanks had distinct tactical limitations, particularly when operating in wooded or urban areas, and during defensive missions. Tanks proved to be most effective when used in combination with the other combat arms, especially infantry and artillery, but it took several years before combined-arms tactics matured. The Heer (German Army) was the most effective practitioner of combined-arms tactics in the Blitzkrieg era of 1939–41. Early *Panzer-Division* tactics involved the use of regiments of tanks and mobile infantry in separate skirmishes on the same battlefield. By the middle of the war in 1942–43, the *Panzer-Divisionen* began to integrate tanks and infantry more closely below regimental level, mixing tanks and infantry at battalion and company level.

Part of the problem in early small-unit combined-arms tactics was the reliance on trucks to motorize the infantry. While truck-mobile infantry could keep pace with tanks in the movement to the battlefield when on roads,

The iconic image of the *Panzergrenadier* associated them with the SdKfz 251 armored half-track. In reality, only a small fraction of the *Panzergrenadier-Regimenter* were in the mechanized configuration.





Armored infantrymen pictured on an M3A1 half-track in Britain during June 1944 before departing for Normandy. The vehicle is fitted with a deep-wading air-intake trunk to prevent the engine from flooding with seawater while landing. The pale-green color inside the Allied air recognition star is gas-alerting paint that was designed to change color in the presence of chemical-warfare agents.

they did not possess enough cross-country capability to stay with tanks when operating in the usual European terrain. Technical innovations, most notably the armored half-track, helped to deepen tank–infantry integration by mechanizing the infantry so that they could keep pace with tanks in cross-country travel. From the German perspective, the main problem with infantry mechanization was the lack of financial or industrial resources fully to mechanize the infantry in the Panzer divisions. Even as late as April 1945, fewer than 40 of the roughly 220 *Panzergranadier* battalions of the Heer, Waffen-SS, and Luftwaffe were mechanized and more than 80 percent still relied on trucks for mobility.

The US Army began forming armored-infantry units in its armored divisions later than the Wehrmacht and had the industrial resources to mechanize all of them. The US Army also deepened the integration of combined-arms tactics through the introduction of specialized “combat command” headquarters within each armored division that regularly integrated tanks and infantry at small-unit level.

This book compares the evolution of German and American mobile infantry in World War II and uses three examples from the Normandy, Lorraine, and Ardennes campaigns in 1944 to illustrate how these units performed in actual combat. The focus in this book is on the *Panzergranadier*

The ETO, June 1944–May 1945

MAP KEY

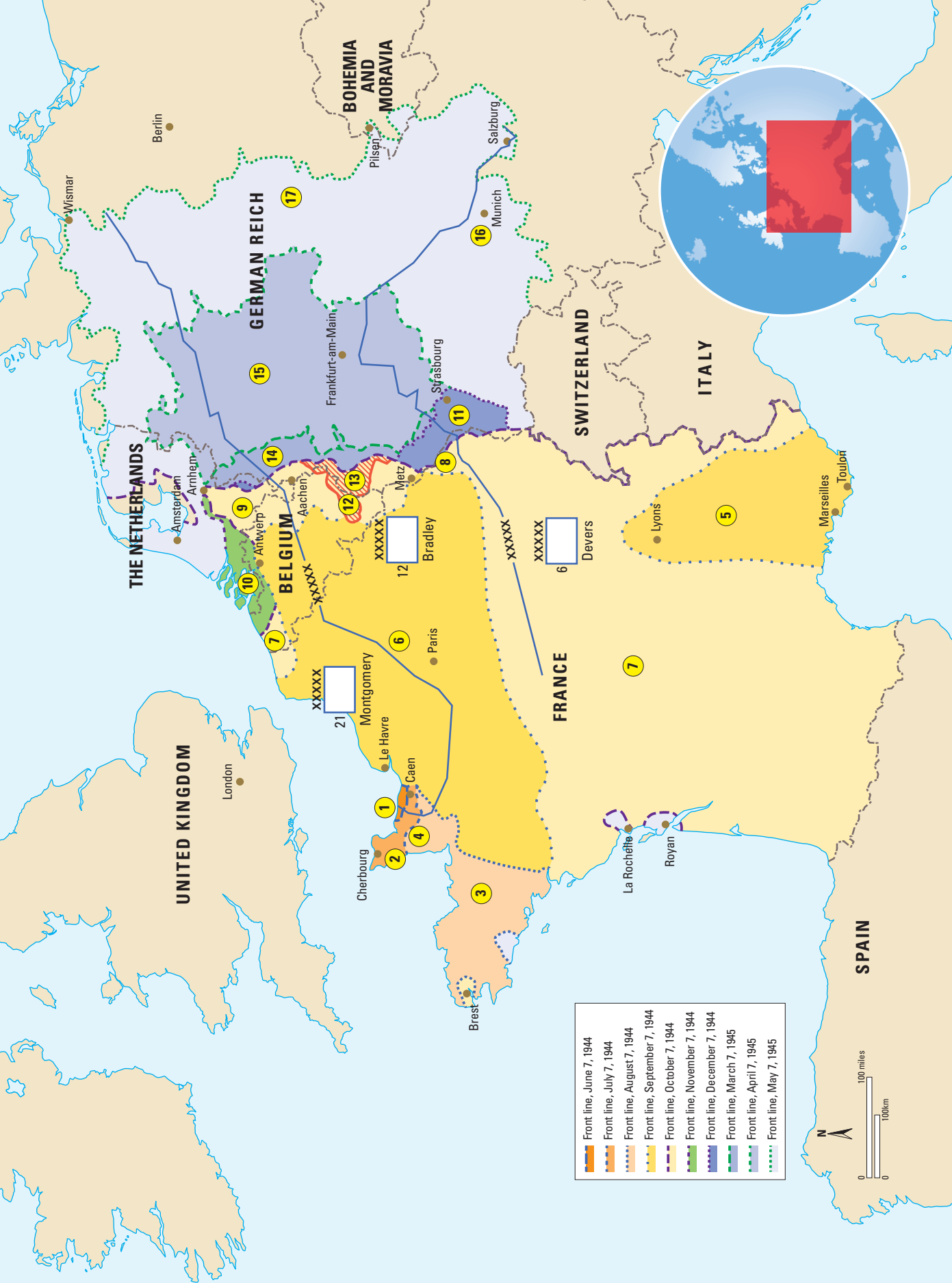
- 1 **June 1944:** The fight for the Normandy beachhead.
- 2 **June–July 1944:** Fighting in Normandy.
- 3 **July–August 1944:** The US breakout – Operation *Cobra*.
- 4 **July 25–27, 1944:** *Panzergrenadiere* of the Panzer-Lehr-Division and the 41st Armored Infantry Regiment fight one another during Operation *Cobra*.
- 5 **August–September 1944:** The invasion of southern France – Operation *Dragoon*.
- 6 **August–September 1944:** The race to the Seine River.
- 7 **September 1944:** Heeresgruppe G retreats.
- 8 **September 26–29, 1944:** *Panzergrenadiere* of 11. Panzer-Division clash with armored infantrymen of the 4th Armored Division at Réchicourt-la-Petite.
- 9 **October–November 1944:** Westwall battles.
- 10 **October–November 1944:** Clearing the Scheldt River.
- 11 **November 1944:** Over the Vosges Mountains.
- 12 **December 1944–January 1945:** The German Ardennes offensive – *Unternehmen Wacht am Rhein*.
- 13 **December 19–24, 1944:** *Panzergrenadiere* of the Führer-Begleit-Brigade fight the armored infantrymen of the 7th Armored Division at Rodt.
- 14 **February–March 1945:** Closing on the Rhine River.
- 15 **March–April 1945:** The breakout from the Rhine bridgeheads.
- 16 **April 1945:** Clearing Germany's "National Redoubt" (*Alpenfestung*).
- 17 **April–May 1945:** The advance to the Elbe River.

forces of the Heer, and to sharpen its focus, the *Panzergrenadier* forces of the Waffen-SS and Luftwaffe are deliberately excluded. This book follows an earlier title in the series on German versus American infantry, so the focus here is on aspects of *Panzergrenadier* and armored-infantry tactics and equipment that separated them from the normal foot infantry.¹

The 7th Armored Division originally passed through St. Vith on September 13, 1944 during the liberation of Belgium. This is an M3A1 command half-track of one of its armored-infantry battalions.



1 Steven J. Zaloga (2016). *US Infantryman vs German Infantryman: European Theater of Operations 1944*. Combat 15. Oxford: Osprey.



- Front line, June 7, 1944
- Front line, July 7, 1944
- Front line, August 7, 1944
- Front line, September 7, 1944
- Front line, October 7, 1944
- Front line, November 7, 1944
- Front line, December 7, 1944
- Front line, March 7, 1945
- Front line, April 7, 1945
- Front line, May 7, 1945



The Opposing Sides

MECHANIZATION OR MOTORIZATION?

German

The iconic image of the *Panzergrenadier* was of a team of riflemen leaping from their armored half-track. Yet for the entire war, mechanized *Panzergrenadier* units were a distinct minority; motorized *Panzergrenadier* units using ordinary trucks were the norm.

At the start of the war in 1939, the infantry element of the *Panzer-Division* was the *Schützen-Brigade* (*Schützen* = riflemen). This consisted of a truck-mobile *Schützen-Regiment* and a motorcycle-mobile *Kradschützen-Bataillon* (*Kradschützen* = motorcycle riflemen). During the early Blitzkrieg period, the Heer experimented with two other forms of mobile divisions: the *leichte Division* (light division) and the *Infanterie-Division (motorisierte)*. The *leichte Division* was a mechanized-cavalry division and these short-lived formations were converted to *Panzer-Divisionen* after the 1939 campaign in Poland due to their mediocre battlefield performance. Four motorized-infantry divisions were formed in the early war years and these eventually grew in number, evolving into the *Panzergrenadier-Divisionen* in 1943. Germany had very limited industrial capacity and a choice had to be made between expanding the Panzer force and using what industrial resources there were to provide a greater degree of motorization in the infantry. The Heer chose the former option, with the five *Panzer-Divisionen* available during the Polish campaign expanding to ten by the time of the campaign in France in 1940, and increasing to more than 20 by the time of the invasion of the Soviet Union in the summer of 1941. The remainder of the Heer remained heavily dependent on horses through the end of the war (DiNardo: 2008).

Early *Panzer-Division* tactics were shaped by the limited tactical mobility of the trucks used to transport the infantry. The *Schützen-Brigade* and the



The first Heer (German Army) armored rifle companies were formed in 1939–40 using the new SdKfz 251. This is a gep. Mannschaftstransportwagen (MTW = armored personnel carrier) of 9./Schützen-Brigade 5 (5. Panzer-Division), the only company to have received this type of vehicle prior to the French campaign in 1940. It is shown here on exercise at the Baumholder training grounds in April 1940.

Panzer-Regiment tended to fight in separate engagements on the same battlefield.² This created tactical problems since tanks were not well suited to holding ground, and at night they often had to withdraw from the front line for re-supply. This required the infantry to take over portions of the front beyond those already under their control. The technical solution to this tactical problem was the mechanization of the infantry through the use of an all-terrain personnel carrier.

As in many other armies, Germany began examining the potential of half-track vehicles to improve the cross-country capabilities of trucks. The partially tracked suspension of the half-track lowered the overall ground pressure about threefold compared to that of a normal truck and thereby improved its flotation in soft terrain such as mud and snow. The main advantage of half-track suspensions versus fully-tracked suspensions was cost. Since the half-track retained steerable front wheels, it did not require a specialized transmission with differential braking for steering and so the power-train for the tracked suspension was not much different from that of a conventional wheeled vehicle.

In Germany, Borgward and Hanomag began to develop a light 1-tonne half-track and medium 3-tonne half-track starting in 1936. Hanomag began manufacture of an armored version of the 3-tonne half-track in May 1939 as the SdKfz 251. It was eventually designated as the *mittlere Schützenpanzerwagen*, abbreviated as mSPW, but most commonly called an “SPW” by the *Panzergrenadiere*. A smaller armored half-track was built on the 1-tonne chassis as the SdKfz 250, or *leichter SPW* (light SPW). Although nominally designed to carry a *Halbgruppe* (half-squad), it was not generally used as an infantry carrier but rather in armored-reconnaissance units or specialized command roles.

SPW production								
	1939	1940	1941	1942	1943	1944	1945	Total
SdKfz 250	0	0	389	1,374	2,895	1,701	269	6,628
SdKfz 251	232	337	424	1,200	4,258	7,785	1,016	15,252
Total	232	337	813	2,574	7,153	9,486	1,285	21,880

² For an example of this, see the description of the battle of Hannut in: Steven J. Zaloga (2014). *Panzer III vs Somua S 35: Belgium 1940*. Duel 63. Oxford: Osprey.



Panzergranadier-Regimenter remained heavily dependent on trucks for motorization through the war. This is a column from I./PzGrRgt 69 (10. Panzer-Division) knocked out by US artillery during the battle for El Guettar, Tunisia in March 1943.

The SPW was used in small numbers for troop trials during the campaign in Poland in September 1939. *Schützen-Regiment 1* (1. Panzer-Division) began conversion to a mechanized configuration in October 1939 with an objective of 155 SPW. Other divisions were assigned the new SPW as it became available, but only 1. Panzer-Division had a significant number on strength at the time of the 1940 battle of France. In 1941, the SPW shortage meant that most units only received a single SPW company. The decision to dramatically increase the number of *Panzer-Divisionen* to over 20 led to organizational changes. Since German tank production was not sufficient to equip the new divisions, the KStN (*Kriegsstärkenachweisungen*; the German equivalent of tables of organization and equipment/TO&E) was reduced. To compensate for the diminished tank strength in the *Panzer-Divisionen*, the number of infantry regiments in the division was increased from one to two. This of course diluted the process of infantry mechanization since Panzer production still had greater priority than SPW production. There was a clear preference for SPW companies over truck-mobile companies because the former had greater battlefield effectiveness, especially on the Eastern Front where the road network was poor. The SPW units also tended to suffer fewer combat casualties since the half-tracks offered protection against small-arms fire.

One issue was whether it was better to distribute one SPW company to each battalion within the *Panzer-Division*, or to consolidate them into a single SPW battalion. The consensus emerged that a homogenous SPW battalion made more sense, it being awkward to employ a mixed truck/SPW battalion in combat. Since there were still significant maintenance demands on the half-tracks, it was easier to manage this process within a dedicated SPW battalion rather than in small company-sized units. As a result, there was a trend toward consolidating the SPW in a single battalion within the *Panzer-Division* in 1943–44, culminating in the 1944 KStN that made such a configuration standard. The mechanized battalions were distinguished from the motorized battalions by the suffix *gepanzerte* (gep.) instead of *motorisierte* (mot.)

The terminology for the motorized infantry changed in 1942 when, in June, Hitler decided to apply the term *Panzergranadier* to the motorized and mechanized infantry. This was intended to be an honorific, recalling the elite grenadier troops of Frederick the Great. In July 1942, the *Schützen-Regiment* became the *Panzergranadier-Regiment* and the *Infanterie-Division* (mot.)



The smaller SdKfz 250 was classified as a *leichte Schützenpanzerwagen* (light infantry armored vehicle) and could carry a *Halbgruppe* (half-squad). In practice, it was mainly used in specialized roles such as in reconnaissance units rather than as an infantry transporter.

became the *Panzergranadier-Division*. This was part of the process for the absorption of the mobile infantry into the *Panzerwaffe*. In the early years of the war, various mobile troops had been under the control of the cavalry, infantry, and Panzer force, undertaking their training at the various branch schools.

The *Panzergranadier* force was an elite formation, but not in the usual sense. Some specific units such as *Panzergranadier-Division Großdeutschland* did have special priority for personnel, but the majority of *Panzergranadier* units did not have such privileges. Rather, the *Panzergranadier* force could depend on a steady stream of regular recruits and not the motley selection allotted to regular infantry divisions that tended to include sub-standard recruits such as *Volksdeutsch*, overage men, and medically compromised men.

Although the propaganda image depicted the *Panzergranadier* as a mechanized rifleman, the degree of mechanization in the Heer remained low. There were modest numbers of SPW in the *Panzergranadier-Division*, primarily in its mechanized *Aufklärungs-Abteilung* (reconnaissance battalion). The *Panzergranadier-Regimenter* in the division were generally truck-mobile, however.

In the case of the *Panzer-Divisionen*, the standard *Panzergranadier-Regiment* configuration under the new 1944 KStN had two *Panzergranadier-Bataillone* plus an infantry-gun company and a *Pionier* (combat engineer) company. Each *Panzergranadier-Bataillon* had four companies: three grenadier companies and a *schwere* (heavy) company. In practice, most divisions had one *Panzergranadier-Regiment* that was entirely truck mobile while the other had a single SPW battalion. The SPW *Panzergranadier* nicknamed his truck-mobile counterpart the “Gummi *Panzergranadier*” (rubber *Panzergranadier*).

American

As in the German case, the US Army experimented with both mechanized and motorized infantry in 1940–41. Since the US Army was so small in 1940, it had the luxury of creating new organizations from scratch, based on the

lessons of the 1939–40 campaigns. The US Army was very impressed with the performance of the Wehrmacht in France in 1940, and so the German pattern was very influential in early US Army organizations.

From a technical standpoint, the US Army had been experimenting with half-tracks for longer than Germany, largely due to the French connection. The Citroën-Kégresse half-track served as the basis for numerous US Army designs in the 1920s and 1930s, primarily as an all-terrain truck rather than as an armored half-track. The US Army studied the conduct of operations in France in 1940 and noted the use of infantry half-tracks such as the German SdKfz 251 and various French types. The other alternative was the British and French approach, with a fully tracked infantry vehicle such the British Universal Carrier or French Chenillette Lorraine. The US Army favored the German approach of an armored half-track since it was large enough to carry a full infantry squad and promised to be less expensive than a fully tracked vehicle. For example, an M3 half-track cost about \$10,000 versus about \$35,000–40,000 for a light tank.

The US Army was already well on its way to the production of an armored half-track by 1940. The Cavalry had been working on a half-track version of its M3A1 scout car. In December 1939, the artillery began development of a similar vehicle as a prime mover for artillery. Both requirements were merged and this vehicle was accepted for service as Half Track Car M2. Infantry officers examined the new vehicle and concluded that with modest changes, it would be suitable as an armored-infantry vehicle. The body was lengthened and the center-mounted stowage bins deleted. This configuration was standardized as the M3 half-track personnel carrier. Ultimately, both types of half-tracks were manufactured for the new armored divisions. The M3 half-track was used primarily for carrying infantry, while the M2 half-track car was used in armored-infantry units to carry machine-gun squads or (in modified

The new US Army infantry half-tracks were put through their paces during the 1941 war-games, in this case the First US Army war-games in the Carolinas during November. Here, troops of a machine-gun squad in an M2 half-track car of A/22nd Infantry hide behind a barn to establish an ambush position near a road junction. The 22nd Infantry Regiment was part of the 4th Division (Motorized) which began experimenting with various vehicles during the war-games.





A young “armored dough” poses for a photo at Fort Knox in June 1942. He was attending specialist driver training at the Armored Forces School and is wearing a British-pattern World War I steel helmet. (Library of Congress)

form) as the M4 81mm mortar carrier. The seating capacity was ten in the M2 half-track car and 13 in the M3 half-track personnel carrier, and these types roughly corresponded to the German SdKfz 250 and SdKfz 251.

US armored half-track production*					
1941	1942	1943	1944	1945	Total
5,242	9,846	21,585	2,581	0	39,254

*Does not include the 15,034 mortar- and gun-armed half-tracks.

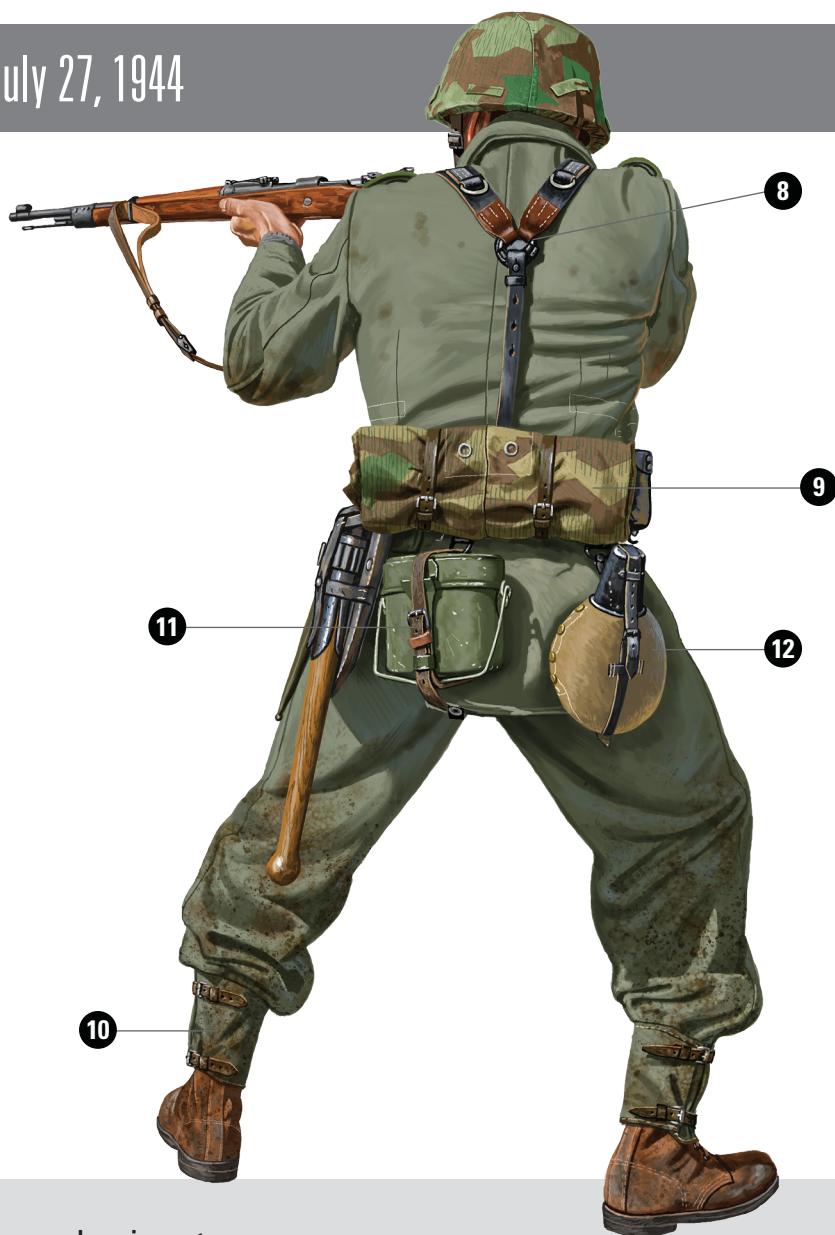
As in the case of Blitzkrieg-era *Panzer-Division*, the 1942 US armored divisions were tank-heavy with a smaller armored-infantry component: two tank regiments and one armored-infantry regiment. By 1943, there was a general consensus that the 1942 armored division was poorly balanced with too many tanks and not enough infantry. This was based in part on experiences in Tunisia in early 1943 but also on war-games conducted in the United States in 1941–43. The head of the Armored Force, Lieutenant General Jacob Devers, wanted to establish a better balance at corps level by deploying armored corps with two armored divisions and one motorized-infantry division. Armored officers with combat experience, such as Major General Ernest Harmon of the 2nd Armored Division, thought reorganization was premature and that if adopted, it should add infantry rather than subtract tanks. The head of the Army Ground Forces, Lieutenant General Lesley McNair, felt that the 1942-pattern division was too big and unwieldy, and was not enthusiastic about armored corps anyway.

Devers was transferred from command of the Armored Force on May 11, 1943, becoming the commander of US forces in the European Theater of Operations (ETO). His replacement, Major General Alvan Gillem, Jr., was an infantry officer, and less enthusiastic about sparring with McNair and the



In contrast to Waffen-SS units which widely used camouflage battledress in Normandy, the Panzer-Lehr-Division remained with the standard Heer *Feldgrau* (field gray) battledress, albeit with more discretion in battledress than normal Heer infantry or *Panzergranadier* units. For example, the splinter-pattern helmet cover shown here was much more widely used in the Panzer-Lehr-Division than in typical Heer formations. Another distinctive form of garb that was widely worn among the division's *Panzergranadiere* was the *Sturmartillerie* field blouse, buttoned to the right side. In contrast, most other Heer *Panzergranadier* units wore the normal infantry blouse that buttoned up the center. Other than these distinctive touches, the Panzer-Lehr-Division resembled most Heer units in the combat uniforms worn.

Quibou, July 27, 1944



Weapons, dress, and equipment

The illustration here depicts the *Panzergrenadier* in light tactical gear without the additional harness clipped to the rear to assist in carrying additional equipment on the back. German infantry relied on the 7.92mm Kar 98k (1), a short carbine version of the longer 7.92mm Gew 98 rifle used in World War I. One of the few distinctive items of garb seen on many *Panzergrenadier* troops in Normandy was the *Sturmartillerie* field blouse (2), originally intended for the crews of the *Sturmgeschütz* assault guns. Panzer-Lehr-Division troops often wore a splinter-pattern helmet cover over their *Stahlhelm* steel helmet (3) in Normandy. This was in the splinter pattern used also on the *Zeltbahn* poncho/shelter quarter. This *Panzergrenadier* wears the usual black leather webbing (4), typical of all German infantry. The *Stielhandgranate* stick grenade (5) could be carried inside the front belt if the belt was worn loosely enough. This was the defensive grenade of the *Panzergrenadier*, intended for use from cover due to its dangerous fragmentation radius. The set of three ammunition

pouches had small metal loop in the center that could be used to attach the *Eihandgranate* egg grenade (6), a smaller offensive grenade intended to complement the *Stielhandgranate* for close-quarter fighting where the stick grenade was too powerful. Typically, two sets of ammunition holders (7) were worn on the front of the belt, each consisting of three black leather pouches. The leather webbing joined at the center of the back to form a “Y” (8). It was fitted with “D” rings for the attachment of a separate leather harness, not shown here, that was used to suspend heavier equipment when in marching order. The canvas *Zeltbahn* (9) served as both a poncho for rainy weather and also as a quarter of a tent-shelter. It came in uniform color or in a camouflage pattern. By 1944, the archetypal “hob-nailed boot” had given way to a low boot with canvas legging (10). The mess tin (11) and entrenching tool could also be attached to the belt at the rear. The canteen (12) had a metal drinking cup attached to the top by means of a vertical leather strap.

Army Ground Forces' bureaucracy. A new armored-division structure was formally adopted on September 15, 1943. The tank-centered armored division of 1940–42 gave way to a smaller, leaner, more balanced division with three battalions each of tanks, armored infantry, and armored field artillery. The armored regiment was dropped as a consequence of this change. With the armored regiment and armored-infantry regiment headquarters gone, greater emphasis was placed on the combat commands. These were increased in number to three, usually called CCA, CCB, and CCR (A, B, and Reserve), and were intended to cement in place the US Army's combined-arms doctrine. Rather than fighting as an armored regiment and an armored-infantry regiment on the same battlefield, the combat commands would take battalions or companies from each of the combat arms, and use them together in combined-arms fashion.

There were exceptions to this reorganization. By the time the new tables came into effect, the 1st Armored Division was in combat in Italy, while the 2nd and 3rd Armored divisions were in Britain in anticipation of the invasion of France. Devers, who had adamantly opposed McNair's reorganization plan and been shifted to commander of the ETO as a place-holder until General Dwight D. Eisenhower's selection, decided that it was too late to change the two divisions in England to the new configuration, so they remained under a modified March 1942 organization. They retained the six tank battalions of the 1942 TO&E instead of the three battalions under the new tables. This organization was often called "tank division (heavy)." It lacked a third combat command on paper, so in practice, the divisions often organized the headquarters of the armored-infantry regiment into the third combat command. The 1st Armored Division delayed converting to the new 1943 pattern until it was pulled out of the line in July 1944 for refitting after the Anzio and Rome campaigns. With Devers having been replaced by Eisenhower, in April 1944, Army Ground Forces in Washington, DC again tried to have the two armored divisions in Britain reorganized. With the invasion of France imminent, Eisenhower backed his armor officers and refused to permit such a disruption. The consequence of this decision is examined in the first combat chapter here.

The other change introduced in 1943 was the abandonment of the armored-corps concept. Until 1943, the US Army had expected to form armored corps with two armored divisions and a motorized division. The fighting in Tunisia and later in Italy raised questions about the need for such a formation, however. The motorized division was dropped in the summer of 1943 in favor of a practice of providing additional truck companies to normal infantry divisions as and when the need arose. The motorized-infantry divisions were converted back to normal infantry divisions. In essence, an armored corps could be formed using a normal corps headquarters when the occasion demanded, even if it did not have the distinct title.

During the war, armored-infantry soldiers were nicknamed "armored doughs" or "blitz doughs," based on the nickname "doughboys" for US infantry in World War I. Life in the armored-infantry battalions was different than in "straight-leg" infantry units. Owing to their half-tracks, armored infantry could carry far more equipment with them into combat, and this tended to include a heavier assortment of weapons than was the case

for regular infantry. Armored infantry were notorious for pilfering gear, since they could carry it with them in the half-tracks. The standard TO&E for weapons was often ignored, with half-tracks mounting supplementary .50-caliber and .30-caliber machine guns. Half-tracks were usually festooned with additional tarps, bags, stoves, brooms, wash basins, pails, and other amenities. Some divisional commanders complained that their armored-infantry columns resembled “gypsy caravans,” and one of the commanders of the 2nd Armored Division actually tried to ban half-tracks in favor of normal trucks due to their “un-military” appearance!

HALF-TRACK COMPARISON

Since the armored half-track was the feature that most distinguished the *Panzergranadier* and armored infantryman, it is worthwhile to compare the two predominant types: the SdKfz 251 and M3 half-track. In terms of armored protection, the SdKfz 251 had a decided advantage since its base armor was 8mm thick, which was roughly equivalent to 12mm after the effect of its angle was calculated; M3 armor was mostly vertical and so its effective thickness was about half this. There were two disadvantages for the SdKfz 251’s heavier armor, however. First, the weight of the armor in concert with the lower power of the Maybach engine resulted in poorer automotive performance with a lower power-to-weight ratio. Second, the angled sides of the SdKfz 251 reduced internal volume, with the result that the M3 had about 15 percent greater internal space for troops. German commanders regularly complained that the SdKfz 251 was too small for a 12-man *Gruppe* in mounted combat. In terms of cross-country mobility, both vehicles had similar ground pressure, but the rubber-band track of the M3 had poorer traction in mud than the padded track of the SdKfz 251 unless fitted with chains. The M3 was easier to handle in poor ground conditions than the SdKfz 251 since it had a powered front-wheel suspension as well as a better power-to-weight ratio. The SdKfz 251 was more demanding in terms of maintenance due to its interleaved wheels and multi-link track and was prone to shedding its track as a result of mud clogging the suspension. Overall, the M3 half-track was simpler, more rugged, and more reliable.

M3A1 half-tracks of Co. D, 41st Armored Infantry Regiment (2nd Armored Division) pass through the town of Cantigny on August 31, 1944, site of the famous US Army battle of World War I. The lead vehicle, numbered D-9, has the name “Daring” on the side door.



Technical data		
	SdKfz 251	M3 half-track
Crew	12	13
Weight	8.0 tonnes	5.7 tonnes
Length	5.98m	6.3m
Width	2.1m	2.0m
Height	1.75m	2.25m
Engine	99hp	147hp
Power-to-weight	12.3hp/T	25.8hp/T
Armor	8–15mm	6.4–12.7mm
Ground pressure	0.8kg/cm ²	0.8kg/cm ²

MECHANIZED-INFANTRY TACTICS

German

The vast majority of *Panzergrenadier* troops in 1944 were truck-mobile, and so their tactics were essentially similar to those of normal German infantrymen. The trucks moved the *Panzergrenadier-Bataillon* (mot.) into the combat area, but the battle was conducted on foot. There were two important differences between the two types of infantry: firepower and integration with the Panzer force. The *Panzergrenadier-Kompanie* was better armed than a normal infantry company with two light machine guns per *Gruppe* (squad) compared to only one in the normal infantry. Small-unit tactics revolved around the light machine guns, with the *Panzergrenadier-Gruppe* forming two fire teams that were supported by the riflemen.



German medics evacuate a wounded soldier during the Ardennes fighting, with an SdKfz 251/3 command half-track of 116. Panzer-Division behind them. This unit was part of the 5. Panzer-Armee assault past St. Vith.



Oberst Johannes Bayer, riding in the SdKfz 251/3 command half-track of Kampfgruppe Bayer (116. Panzer-Division), consults with a young *Panzergranadier* of Panzergranadier-Regiment 60 during the fighting in the Ardennes in December 1944.

The degree of integration between the *Panzergranadier* and Panzer units increased during the war. As mentioned before, the tactics in the early Blitzkrieg era tended to see the *Schützen-Regiment* and *Panzer-Regiment* fight their own engagements next to one another on the same battlefield, but with little intermixture below regimental level. As the war continued in the Soviet Union, small-unit combined-arms tactics improved. There was no dedicated headquarters for joint missions, but the *Panzer-Division* used existing regimental headquarters to serve as the basis for a *Kampfgruppe* (battle group). The usual practice was to intermix units from one type of regiment to the next to facilitate missions. So for example, a *Panzergranadier-Regiment* would form a *Kampfgruppe* that included one of its *Panzergranadier-Bataillone* while the neighboring *Panzer-Regiment* allotted one of its *Abteilungen* to the same mission. This was done on such a regular basis that the infantry and tanks became accustomed to working with one another. Infantry support was extremely valuable to the tanks since they could offer close-defense against Red Army infantry attacks, as well as providing the dispersed combat power needed in fine-grained terrain such as woods and towns where tanks were not especially effective. Infantry was also essential for night defense, and *Panzergranadier* units were more combat effective than tanks for defensive missions where terrain had to be held.



The US Army's armored-infantry units wore the same battledress as regular infantry units. One of the few exceptions was the 2nd Armored Division, which partially equipped some of its units with camouflage battledress in the days before the start of Operation *Cobra* on July 25, 1944. However, this did not cover all units, and many of the infantry retained their normal garb as shown here. Infantry units which landed over the beach on D-Day and the next few days wore chemically impregnated clothing as a form of anti-gas protection. These uniforms were smelly and uncomfortable, and units such as the 2nd Armored Division were reequipped with new battledress within days of landing.

Quibou, July 27, 1944



Weapons, dress, and equipment

The rifleman depicted here is in light tactical dress without the entrenching tool and rucksack/musette bag that would be worn in marching order. The .30-caliber M1 Garand rifle (1) was the standard infantry weapon in both normal infantry units and in armored-infantry units. By 1944, most M1 steel helmets (2) were issued with camouflage nets which were supposed to be festooned with local foliage; a practice not regularly used by US infantry. By the time of the Normandy landings, the armored infantry of the 2nd Armored Division were shifting to the new Model 1943 battledress (3), marking a change in appearance from the khaki/field-drab colors of Olive Drab Shade No. 3 to the darker and greener Olive Drab Shade No. 7. This subsequently became the predominant US Army battledress in the European Theater of Operations. The Model 1943 battledress moved to a darker shade of green in part due to concerns

expressed by senior commanders that the earlier and lighter khaki colors tended to look sloppy and highlight dirt. Aside from the shift in color, the new battledress had a more practical selection of pockets. To bulk up on rifle ammunition quickly, the .30-caliber clips were issued in a handy, disposable cloth bandoleer (4) with six more clips. The rifleman's primary supply of .30-caliber clips was contained in canvas ammunition pouches (5) attached to the front of the belt. In the summer months, the US infantry relied on low boots (6) with canvas leggings. The metal canteen (7) was contained in a canvas cover that clipped to the belt. The switch to Olive Drab Shade No. 7 affected items such as this as well as the basic battledress. The M1 Garand rifle was invariably accompanied by the M1 bayonet (8) that was normally worn on the belt so that it could be reached easily in combat.

The heavy-weapons company in the *Panzergrenadier-Bataillon* was equipped with the SdKfz 251/9 assault gun, armed with a short 7.5cm infantry gun. This one was knocked out in Stavelot on December 18 during the fighting between Kampfgruppe *Knittel* (1. SS-Panzer-Division *Leibstandarte Adolf Hitler*) and the 30th Infantry Division.



Some tactics emerged that became a specialty of the *Panzergrenadier* force. When cooperating with tanks, a portion of the *Panzergrenadier* force would often ride on the tanks for mobility. This practice varied from unit to unit, with some *Panzer-Divisionen* specifically forbidding the practice after experiences in which the infantry dismounted too late and suffered heavy casualties as a consequence. By 1944, such tank-riding practices became common, however, since the trucks available offered poor mobility in cross-country travel.

The SPW companies employed different tactics than the motorized companies. From the outset, the preferred tactic of SPW units was mounted combat, and this was officially sanctioned in field manuals such as the May 25, 1942 manual Heeres Druckvorschriften (Army Staff Rules) 299/4a *Ausbildung und Einsatz der Schützenkompanie* (Training and Deployment of Rifle Companies). The tactical doctrine did recognize that in some circumstances, especially in defensive operations, the *Panzergrenadiere* would fight from a dismounted position. However, mounted tactics were preferred since the SPW offered shock value, concentrated machine-gun firepower, and protection against enemy small-arms fire.

The SPW battalions had firepower advantages over the motorized battalions because they were allotted more support weapons, and their heavy weapons could more easily keep pace with the rifle companies. The two most typical heavy weapons were infantry guns and mortars. The SPW battalion had 12 7.5cm infantry guns that the motorized battalion lacked. These were mounted on the SdKfz 251/9, variously nicknamed the *Kanonewagen* or *Stummel* (“stump”). The SPW and motorized battalions both had the same number of 8cm mortars, but in the case of the SPW battalion, these were mounted on the SdKfz 251/2, and could be fired without first having to dismount the mortar. Another important difference between the two types of *Panzergrenadier* battalion was the degree of anti-aircraft protection. The SPW battalion had a nominal strength of 21 2cm Flak guns on vehicle mounts while the motorized battalion had only six towed guns. In practice, however, only a small fraction

of SPW units had their authorized allocation of vehicle-mounted Flak guns. Hitler had fixed upon the SdKfz 251/21 fitted with a triple (Drilling) MG 151/21 mount as the ideal *Panzergrenadier* weapon, but these were slow in being manufactured and deployed, as can be seen in the chart below.

Deployed SPW by type, October 1944		
Type	Weapon	Quantity
SdKfz 251 (all other)	n/a	4,860
SdKfz 251/9	7.5cm IG	569
SdKfz 251/16	Flamethrower	258
SdKfz 251/17	2cm Flak	53
SdKfz 251/21	2cm Drilling	61

As was so often the case with the Wehrmacht in World War II, there were numerous exceptions to the rule when it came to specific *Panzergrenadier* organizational and equipment issues. To begin with, Waffen-SS *Panzergrenadier* units often had a different KStN than their Heer equivalents. (This book only considers the Heer units, so these differences are outside the scope of the discussion here.) There were two major exceptions in Heer *Panzergrenadier* units, notably the two elite formations: Panzergrenadier-Division *Großdeutschland* (GD) and the Panzer-Lehr-Division. The Panzergrenadier-Division *Großdeutschland* served only on the Eastern Front and so does not concern us here. Some of its spin-off units, however, the Führer-Begleit-Brigade and Führer-Grenadier-Brigade, served in the Ardennes, and the Führer-Begleit-Brigade is covered in more detail in the third of the battles featured in this book. The Panzer-Lehr-Division was composed of training units from both the Panzer and *Panzergrenadier* training establishments. Aside from having better-than-average troops, the Panzer-Lehr Division stands out since it was the only Heer division in the ETO in 1944 to have all four of its *Panzergrenadier* battalions equipped with SPW. This unit is detailed in the first of the battlefield scenarios featured in this book.

Another exception was the improvised *Panzer-Brigade* first formed in the summer of 1944. These units were created under Hitler's express instructions as specialized formations to counterattack Soviet tank breakthroughs. The brigades were created in two waves. Brigades of the first wave, created in July 1944, were numbered 101–110; they were light in the Panzer component with only a weak battalion of 36 Panther tanks but with a large and well-equipped *Panzergrenadier-Regiment* with a full complement of SPW. The second wave, numbered 111–119, had two tank battalions and two *Panzergrenadier* battalions each, but like other contemporary *Panzergrenadier* formations, they had a very weak SPW content. In the event, seven brigades were hastily committed in the West: one near Arnhem against Operation *Market-Garden*, two against the First US Army in the Aachen corridor, and four against Patton's Third US Army as part of the Vosges Panzer offensive in Lorraine. The Lorraine brigades performed poorly and toward the end of September, most were absorbed into neighboring *Panzer-Divisionen*. One example of these is presented as part of 11. Panzer Division in the second of our battlefield examples.

American

In contrast to the Wehrmacht, the US Army was fully motorized and used draft animals only in limited circumstances, for example in mountain operations. A major organizational difference was the imposition of rigid uniformity on US Army formations. In the ETO, all armored-infantry battalions were organized and trained in the same manner, with some minor exceptions involving the two “heavy” armored divisions. The basic tactical doctrine for the armored-infantry battalion was spelled out in Field Manual FM17-42 which was issued in several editions through the war. The November 1944 edition defined the characteristics of the armored-infantry battalion as “a powerful, mobile, lightly armored unit that is tactically and administratively self-contained and capable, to a limited extent, of independent action. The battalion is specially organized, equipped, and trained for employment in mutually supporting tank and infantry action.”

The most significant difference between US and German doctrine was that the US Army expected the armored infantry to fight dismounted. FM17-42 noted that the battalion “moves forward in vehicles until it is forced by enemy fire or unfavorable terrain to dismount.” The half-tracks would be used in such combat only if dispersed and under cover. The tactical doctrine did acknowledge that armored infantry might fight from a mounted position when facing weak opposition, such as in a rapid exploitation of a broken enemy. As mentioned earlier, German doctrine favored mounted combat from the SPW.

US Army doctrine stressed the need for combined-arms tactics. In practice, this meant that a combat command would generally operate elements from the tank, armored-infantry, and armored field-artillery battalions, supported by small armored-engineer and cavalry reconnaissance formations. There was no particular size for a combat command; it could be as small as a couple of battalions, or as many as ten battalions. It was tailored to the mission. Nor was the combat command always organized around the same battalions; assignments could vary on a daily basis.

In a typical situation, a combat command would consist of a tank battalion, an armored-infantry battalion, an armored field-artillery battalion, an armored-engineer company, and one or more troops from the mechanized cavalry squadron. Tactics were largely driven by the nature of the mission. Typically, a combat command would be broken down into two or more task

US Army armored-infantry tactics stressed the need for close infantry–tank cooperation. Here, an M3 half-track of the 14th Armored Division passes by a smoldering M4A3 (76mm) medium tank knocked out the previous day during fierce fighting against Panzer-Brigade 106 in the Alsatian town of Barr.





forces. One of these might be tank-heavy with two companies of tanks and one company of armored infantry, while another might be infantry-heavy with two companies of armored infantry and a company of tanks. Each task force was usually headed by an element of one of the battalion headquarters companies, typically the executive officer of one of the battalions.

The combat command structure permitted greater integration of combined arms on the battlefield than the German *Kampfgruppe* system. This was not because the Germans did not recognize the advantages of this organization, but because of the general paucity of German resources in 1944. There was not only a dearth of trained staff officers but also a shortage of the communications and support equipment needed for the additional headquarters.

Mounted armored-infantry tactics were more commonplace in exploitation and pursuit against a weakened enemy, as in the final weeks of the war in Germany. This is an M3 half-track of Co. C, 46th Armored Infantry Battalion (5th Armored Division) near Wittenmoor, Germany on April 12, 1945.

COMBAT SUSTAINMENT

One of the fundamental differences between the US and German armies in the ETO in 1944–45 was combat sustainment. Infantry units endure very high rates of casualties when in combat and the two armies had different approaches to dealing with the issue.

German

The Heer recruited on a regional rather than national basis. Each regiment was raised in a specific *Wehrkreis* (military district) and the Ersatzheer (Replacement Army) maintained an *Ausbildungs-Ersatz-Abteilung* (training and replacement unit) to replenish the parent unit. The intention was to feed in replacements a company or more at a time, giving the unit a degree of cohesion from the outset. By 1944, this system had broken down. Since the replacement companies could not be supplied in a timely fashion, the divisions shrank as they suffered combat attrition. Surviving units were amalgamated into smaller and smaller *Kampfgruppen* until the division was reduced to a “torso division,” at which point it was pulled out of the line and sent back to



A classic view of a *Panzergrenadier-Gruppe* in action, in this case a squad from Panzergrenadier-Lehr-Regiment 902 (Panzer-Lehr-Division) in Normandy during June 1944. Each *Gruppe* was equipped with two light machine guns, giving them about double the firepower of an ordinary infantry squad.

the interior for rebuilding. They were called torso divisions because they had lost the muscle of their combat arms, but had retained the core administrative and service elements of the division as well as some combat elements such as the field artillery that tended to suffer lower attrition rates than infantry, combat-engineer, and tank units. Two of the battlefield scenarios presented here dealing with the Panzer-Lehr-Division and 11. Panzer-Division illustrate the effect of this policy.

The German armed forces in Normandy were not happy about replacement policy and on July 11, 1944, Heeresgruppe B requested that the Ersatzheer automatically send three replacement battalions – mainly *Panzergrenadier* troops – to each Panzer division each month to “create a pipeline system such as the Invaders possess.” This seldom proved possible. Following the heavy losses in Normandy, all Waffen-SS Panzer units and some Heer *Panzer-Divisionen* had to be pulled out of action for three months for rebuilding prior to the Ardennes offensive.

American

The US Army attempted to maintain its armored divisions at their TO&E levels by feeding in a continual supply of replacements to units in combat. Individual replacement troops were sent to replacement depots in the theater, and then assigned to units as required. The US system was essentially modular. Every soldier was trained for a particular occupational specialty such as “rifleman” and each individual was regarded as simply another anonymous cog in the system that could be transferred or replaced as needed. This system has been the subject of harsh criticism over the years since the new replacements were often dumped into a new unit with little or no acclimatization, and often became casualties very quickly if they did not adapt. Some units learned that it was better to give new replacements a crash course in the realities of the battlefield before plugging them into the front lines, but this varied considerably from division to division.

Even though the half-track relieved the armored infantry from the foot-slogging misery of the normal infantry, it was not easy duty, and armored infantry suffered some of the highest casualties of any single combat arm during the war in Europe. The usual high infantry casualty rates could be exacerbated since the armored-infantry battalion's mobility led commanders to use them in attacks more often than the average foot-infantry battalion. A formerly secret US Army medical report concluded that

In armored divisions, with too few armored infantry, the infantry contributes from 80 to 90% of the combat exhaustion casualties, rates becoming extremely high after the third to fifth days of action. In hard, continued action, armored infantry companies may be down to 40–50 men (out of a strength of 245), with [all] three company commanders casualties in the process. One unit had 150–180% replacements in 200 days; another had 100% turnover in 60–70 days.

COMMAND AND CONTROL

Tactical command and control of motorized and mechanized infantry placed a greater demand on radio assets than in normal infantry units since mobile units could not depend on traditional methods of communication such as field telephones while on the move. In general, *Panzergrenadier* and armored-infantry units had a greater level of radio assets for tactical command-and-control than ordinary “leg” infantry.

German

The distribution of tactical radios in the Heer in 1944 was very uneven due to shortages as well as organizational differences. The objective was to treat the SPW as per every other armored vehicle and thus to issue each with a Fusp rech f transceiver, but these did not come into widespread use until 1942–43. The Fusp rech f AM radio was usually mounted on the right side of the SPW driver's compartment and so was operated by the vehicle commander or an assigned member of the *Gruppe*. It was a compact and very advanced radio for its day, operating in the 20.0–21.5MHz range with an effective range of 5km when stationary and 2km on the move. There is little data on what proportion of the SdKfz 251 force actually received these radios. This radio permitted command and control within the *Panzergrenadier* unit, but was not suitable for interaction with accompanying Panzer units which operated radios in the 27–33MHz band. Likewise, it could not interact with dismountable infantry tactical radios which operated in the 32–38MHz bands. The majority of *Panzergrenadier* battalions were truck-mobile and did not have vehicular radios.

A dismounted radio team of a *Panzergrenadier* heavy infantry-gun company in action in the Recht-Poteau area at the start of the Ardennes offensive in December 1944. This team connected the self-propelled battery to the forward observer.



The basic command half-track was the SdKfz 251/3 which carried different radio fits depending on its role. This example was the mount of Oberst Johannes Bayer, leader of Kampfgruppe Bayer (Panzer-Regiment 16, 116. Panzer-Division) in the Ardennes in mid-December 1944. The SdKfz 251/3s were usually fitted with a "crow's feet" antenna (Sternantenna D) for the associated Fu 8 radio, visible toward the rear of the vehicle, as well as a simple 2m Stab antenna for the Fu 5 radio.



For communication above the platoon and company, there were dedicated command half-tracks of the SdKfz 251/3 series in the mechanized battalions. The radio fit in these vehicles was tailored to their role. So for example, the SdKfz 251/3 used at battalion level had a FeldFu B for inter-vehicle communication, a Fu 8 for communications within the battalion headquarters company and to regimental staff, and a Fu 5 for communicating with supporting tank units. Command half-tracks at higher levels had a more elaborate radio fit. In the truck-mobile battalions, similar radios were provided, but in specialized radio trucks rather than half-tracks.

When dismounted, the *Panzergrenadier* company in 1944 had a FeldFuSpr b to enable the company commander to communicate with higher headquarters, and four FeldFuSpr f backpack radios. The latter were usually distributed on a scale of one per platoon with one remaining with the company staff.

The SdKfz 251/6 was a family of command half-tracks for divisional and corps headquarters with more elaborate features than the basic SdKfz 251/3. It carried powerful, long-range radio stations such as the Fu 12 and Fu 19 with the requisite fixed exterior frame antenna. This is an example serving with LVIII. Panzerkorps during Operation *Margarethe*, the occupation of Budapest, in March 1944.





An essential component of combined-arms tactics was artillery support from the armored division's self-propelled field-artillery battalions. This is Lieutenant Ode Odens, a forward observer of the 440th Armored Field Artillery Battalion on his tank during 7th Armored Division operations near St. Vith on January 25, 1945. Each tank and armored-infantry battalion had at least one forward observer attached to them during operations.

The FeldFuSpr f was an AM radio weighing 13kg with a 150mW output and an effective range of about 1km. It operated in the 27.8–33.2MHz band, thus overlapping the range of the Fu 5 Panzer radio, and thereby able to communicate with supporting tanks. Although a well-designed transceiver, by American standards it was very old-fashioned, heavy, and bulky for an infantry-platoon radio. A variety of new, smaller tactical radios were entering service in late 1944 such as the Kleinfunksprecher d “Dorette,” which entered production in October 1944.

An important step forward in infantry communications was the SCR-536 “handie-talkie,” a compact AM transceiver deployed on a scale of one per platoon in US Army armored-infantry battalions. It was used for dismounted actions while the platoon half-track was fitted with a SCR-510 FM transceiver.

American

Since the US armored-infantry battalion was not expected to fight from a mounted position, the emphasis was on radios for dismounted combat. The battalion radio net was composed of FM radios. The company headquarters half-track had an SCR-528 and two of its jeeps were fitted with SCR-510 radios. Each platoon leader's half-track had an SCR-510 transceiver. For dismounted combat, the rifle company also had an SCR-300 “walkie-talkie” backpack FM radio. The basic radio equipment for the company comprised seven SCR-536 “handie-talkie” hand-held AM radios with three in the headquarters (including one for the artillery forward observer), plus one in each of the platoons. The SCR-536 was a compact radio weighing only 5lb with a 360mW output and an effective range of 1 mile. This was less than one-fifth the weight of its German counterpart with double the output.

Although the SCR-536 was very advanced for its day, its main disadvantage was that it did not



The standard infantry transceiver at company level was the SCR-300 “walkie-talkie,” as shown here in in Oberhoffen in Alsace on February 6, 1945 where an “armored dough” radioman is communicating with an M4 medium tank of the 25th Tank Battalion (14th Armored Division). The SCR-300 operated in a different bandwidth than the tank radios, and so a separate AN/VRC-3 radio set was added to a proportion of the tanks to permit infantry–tank communication.



To facilitate infantry–tank communications, some units mounted SCR-509 vehicle radios along with their batteries on a pack-board, like this example with the 41st Armored Infantry Regiment (2nd Armored Division).





communicate in the same frequencies as those radios used in supporting tanks. As a result, communication was restricted to the company headquarters which had suitable radios. This shortcoming had been recognized prior to D-Day and steps were taken to adapt the infantry SCR-300 radio for use from inside a tank; a version later called the AN/VRC-3 radio. These were not available in the early summer of 1944, however. As a result, tank and infantry units began to experiment with a variety of local solutions, such as providing additional infantry radios to the tanks or vice versa. The need for a tank–infantry radio was acknowledged by a June 15, 1944 TO&E change which authorized one AN/VRC-3 for each tank-company HQ and two per tank platoon. These radios began arriving in September 1944, and were gradually introduced into the tank battalions by December 1944.

Another approach for even closer integration was to wire a field telephone into the tank's intercommunication system. The US Army had already begun to plan a tank external telephone in May 1944, but development was not completed in time for the Normandy campaign. A design for wiring a tank with an EE-8 field telephone was finally developed by the First US Army in July 1944, and a conversion program was undertaken prior to the start of Operation *Cobra* at the end of July. The field telephone was mounted in an empty .30-caliber ammunition box welded to the back of the tank, thus allowing an infantryman walking behind the tank to communicate with the crew, pointing out targets. This solution was not ideal, since the infantryman could not accompany the tank once it began moving at normal speeds, and of course the infantryman was vulnerable to enemy fire; but it proved to be better than nothing, and remained in widespread use through the European campaign. The Heer never fielded a similar system.

An M3A1 half-track of the headquarters of CCB, 7th Armored Division, named *Lucille-B*. The extra radio antennas typical of a headquarters vehicle are evident here.

The Panzer-Lehr- Division in Normandy

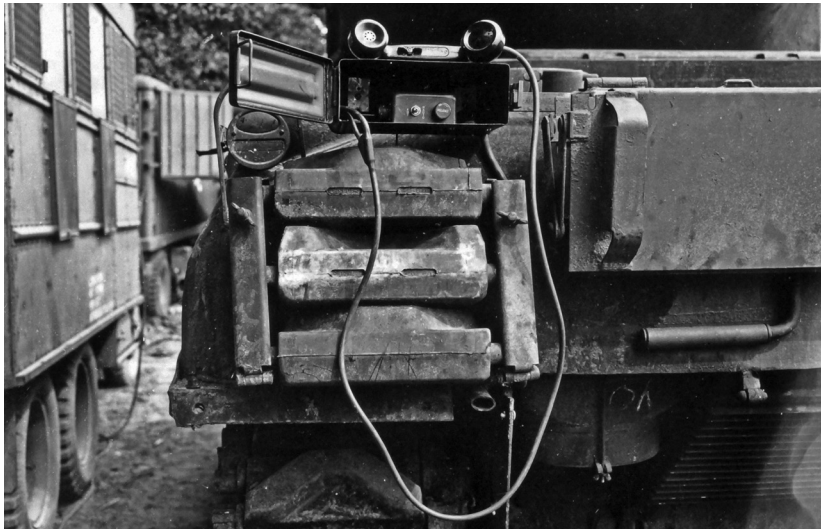
July 11–27, 1944

BACKGROUND TO BATTLE

The Panzer-Lehr-Division was the best-equipped *Panzergrenadier* force of any Heer division in the ETO, with all four battalions mechanized with SPW. At the beginning of June 1944, it was slightly over-strength in personnel and had a full complement of SPW. The division was first deployed in the Caen sector after D-Day, facing British and Canadian forces. It suffered very heavy attrition during the first five weeks of fighting, losing 3,407 men, 50 tanks, 82 SPW, and over 200 trucks and other vehicles in less than three weeks of fighting. While the 3,407 casualties were only 23 percent of overall strength, they represented 48 percent of combat strength. These losses were particularly severe in the *Panzergrenadier-Lehr-Regimenter*, numbered 901 and 902, which

An SdKfz 251 from the ill-fated Bataillon Philips (I./PzGrLeRgt 901) knocked out in the clash with the 39th Infantry Regiment (9th Infantry Division) around La Désert on July 11, 1944. Most of the *Panzergrenadiere* rode into combat on Panther medium tanks, but a few SPW were used in the attack.





One of the critical innovations in tank–infantry communication was the addition of a field telephone that was wired into the tank's intercom system. This is one of the first examples, mounted in an empty .30-caliber ammunition box, on the rear of an M4A1 (76mm) medium tank of the 2nd Armored Division in Normandy on July 9, 1944 prior to Operation *Cobra*.

fell to only about one-third their authorized combat strength. The division was pulled out of the line on June 26 and placed in Heeresgruppe B reserve. At this point in time, the replacement system was still functioning and the division received 1,633 replacement troops and 191 convalescents, leaving it 1,362 men short. The division also received 19 replacement tanks by early July. It was committed to the American sector of the Normandy front at the end of the first week of July 1944.

The Panzer-Lehr-Division mainly faced the 9th and 30th Infantry divisions in the original Vire River battles of July 11–25. It was struck by the 2nd Armored Division on the second day of Operation *Cobra* on July 26, 1944. The 2nd Armored Division was configured under the “heavy” 1942 TO&E. The division had landed in North Africa during Operation *Torch* in November 1942 but saw only limited combat action afterward in Tunisia in 1943. It was the principal armored force of Patton's Seventh US Army on Sicily in July 1943 and was subsequently transferred to England for eventual deployment to France. At the start of Operation *Cobra*, it was about 15 percent over-strength in troops, and also had additional replacement tanks beyond its TO&E allotments.



The Panzer-Lehr-Division was first committed to the battles in the Caen sector in June 1944, suffering heavy losses in the fighting near Tilly. This is an SdKfz 251/9 *Kannewagen* of Kampfgruppe *Welsch* (PzGrLeRgt 902) during the June 1944 fighting.

Operation *Cobra*, July 24–28, 1944

MAP KEY

- 1 July 24:** The two *Kampfgruppe* of the Panzer-Lehr-Division are located north of the Périers–Saint-Lô highway during the aborted US bomb attack. Later in the day, Generalleutnant Fritz Bayerlein, commander of the Panzer-Lehr-Division, orders the forward outpost line and the main line of resistance to be withdrawn south, inadvertently placing them within the next day's bomb zone.
- 2 Dawn, July 25:** The *Cobra* plan hinges on the use of carpet bombing to clear a path for the VII Corps assault. The area south of the Périers–Saint-Lô highway is chosen due to its visibility from the air. In spite of this, some bombs still fall short, especially in the 30th Division sector.
- 3 Morning, July 25:** The three hours of bombardment and strafing largely destroy the Panzer-Lehr-Division as an effective force. Nevertheless, the US infantry divisions, assigned to execute the breakthrough, fail to do so. They are exhausted from three weeks of fighting in the “Hedgerow Hell” and advance warily through the lunar landscape of the bomb zone.
- 4 0300hrs, July 26:** Bayerlein tries to reinforce the main line of resistance by dispatching his few remaining tanks, but they become scattered in the darkness and their effect is diluted.
- 5 0945hrs, July 26:** CCA, 2nd Armored Division departs the start line at Hébécrevon.
- 6 1015hrs, July 26:** The first major encounter for CCA, 2nd Armored Division is with a small *Kampfgruppe* of *Kampfgruppe Welsch* in the village of Saint-Gilles. After a fighter-bomber strike, the American column pushes through.
- 7 1900hrs, July 26:** CCA, 2nd Armored Division penetrates the weak Yellow Line defenses and reaches the crossroads at Canisy by late afternoon and secures the town. Patrols push out to the south and southeast.
- 8 2200hrs, July 26:** Generalleutnant Dietrich von Choltitz orders Bayerlein to counterattack the CCA spearhead and push it back over the Yellow Line. Bayerlein instructs his *Pioniere* and the remnants of the reconnaissance battalion, but neither has the mobility or force to reach the start line by morning. The units move north but an organized counterattack is impossible.
- 9 0900hrs, July 27:** CCA, 2nd Armored Division spends the morning and much of the afternoon clearing out Le Mesnil-Herman, which had been reinforced during the night in anticipation of the aborted German counterattack.
- 10 0900hrs, July 27:** CCB, 2nd Armored Division joins the offensive and moves farther to the southwest. It runs into the first German strongpoint at Quibou.
- 11 1600hrs, July 27:** CCB, 2nd Armored Division overruns the German Red Line defenses in Dangy and then proceeds to Pont-Brocard, narrowly missing Bayerlein's headquarters which is thrown into chaos.
- 12 July 28:** CCA, 2nd Armored Division reaches the Lengronne–Villebaudon road. By this stage, there are no longer any organized defenses left from the Panzer-Lehr-Division. Nevertheless, the 2nd Armored Division ceases its advance for the moment, since there is a frantic German effort to break out of a pocket near Roncey to the northwest that was created by the US advance of the past three days.

Battlefield environment

The fighting between the Panzer Lehr-Division and the US VII Corps was in the *bocage* country of Lower Normandy. *Bocage* is the French term for coastal hedgerows built up over the centuries to protect farm fields from wind erosion. The US Army referred to it as a natural inverted trench system. Each farm field became a small fortified zone, edged with the high and dense hedgerows. The rural road network in the area was too constricted to permit large-scale mechanized operations.

The weather in Lower Normandy in July 1944 was moderate and did not have a significant impact on combat operations. One factor that did affect operations was the

The Saint-Lô area was characterized by dense *bocage* that required special tactics. This is a squad of the 41st Armored Infantry Regiment (2nd Armored Division) stationed behind a hedgerow in the Pont-Brocard area on July 29, 1944 while trying to block German infiltration out of the Roncey pocket.

extended daylight hours of high summer, with dawn occurring around 0430hrs and nightfall around 2300hrs (British double summer time) that created a long day for campaigning.





INTO COMBAT

When the American advance over the Vire River near Saint-Lô became a greater threat during the second week of July, 7. Armee was allotted the Panzer-Lehr-Division with the intention of crushing the Vire bridgehead. It was assigned to LXXXIV. Armeekorps for a planned counterattack to push back the US VII Corps to the Vire-et-Taute Canal. The intention was to use the Panzer-Lehr-Division as part of a counterattack force including *Kampfgruppen* of 2. SS-Panzer-Division *Das Reich* on July 9, 1944. However, owing to the presence of Allied fighter-bombers, transit of the division was time-consuming and took place mainly at night. As a result, the counterattack was delayed until the night of June 10/11. The division had little time to prepare for the attack, and was unfamiliar with the thick *bocage* that was far denser in this area than in the Tilly area where the division was previously committed. The local 7. Armee commanders had dubbed the tactics of *bocage* fighting as “bush war,” and in late June 1944 had prepared a report on the use of Panzers in this terrain. After studying US tank–infantry tactics they recommended that “we cannot do better than to adopt the enemy combat methods with all his ruses and tricks.” The Panzer-Lehr-Division commanders were largely unaware of these recommendations.

Facing the Panzer-Lehr-Division was the US VII Corps consisting of the 9th and 30th Infantry divisions, supported by elements of CCB, 3rd Armored Division. The Panzer-Lehr-Division commander, Generalleutnant Fritz Bayerlein, complained to the corps headquarters about the excessively hasty preparations, but was ordered to stage the attack as instructed.³

The July 11 attack by the Panzer-Lehr-Division was an act of desperation. Before giving up his command of Army Group B to Generalfeldmarschall Günther von Kluge in July 1944, Generalfeldmarschall Erwin Rommel had warned that “if the Vire bridgehead cannot be cleaned out, the whole [7. Armee] front will collapse.” If the operation had been conducted on July 9 as planned, the attack might have overcome the modest American forces then in the bridgehead. By July 11, however, the bridgehead had been substantially reinforced to two entire infantry divisions and under such circumstances the attack had become foolhardy. The offensive was conducted without any meaningful reconnaissance and was based on a serious underestimation of US forces. There was the presumption that a shocking blow in a sector that had never seen a significant Panzer force would be enough to overwhelm the American defenses. By this stage of the campaign, however, the 9th and 30th Infantry divisions were both combat experienced and far more familiar with the conditions of *bocage* fighting than the Panzer-Lehr-Division. Furthermore, the German attack was badly planned, with four battalions operating along separate axes with no ability to support one another in the confined terrain.

The Panzer-Lehr-Division attack was conducted by two *Kampfgruppen* based on the two *Panzergrenadier-Regimenter*, each consisting of roughly two *Panzergrenadier* battalions, a company of *Pioniere*, and one or more companies of tanks of Panzer-Lehr-Regiment 130. Kampfgruppe 901 launched its attack on the left flank from the area south of the Bois du Hommet, while

OPPOSITE The SPW of Kampfgruppe *Welsch* (PzGrLeRgt 902) were heavily camouflaged during the Normandy fighting in the hopes of warding off Allied fighter-bomber attacks.

3 For a map of this battle, see: Pier Paolo Battistelli (2009), *Panzer Divisions 1944–45*. Battle Orders 38: Oxford: Osprey, p. 56.



Kampfgruppe 902 was on the right flank and pushed out of the towns of Hauts-Vents and Pont-Hébert with both thrusts converging on Saint-Jean-de-Daye. The terrain did not favor the use of SPW, so the *Panzergrenadiere* mounted up on the tanks and assault guns.

The attack began in the pre-dawn hours. Bataillon Philips (I./PzGrLeRgt 901) riding on Panther tanks made the deepest penetration of the day, crashing into the 39th Infantry Regiment (9th Infantry Division) near the village of Le Désert. However, two companies of M10 3in GMC of the 899th Tank Destroyer Battalion were supporting the infantry regiment. Knowing the terrain far better than the German tank crews did, they maneuvered their tank destroyers and began engaging the Panthers in the dark. When the first Panther was hit and exploded, the resulting fire illuminated the column, making it vulnerable to attack by the other tank destroyers. Bataillon Philips, numbering 250 men and ten Panther tanks, was surrounded and wiped out, losing all but 30 men.

Kampfgruppe 902 on the right flank penetrated about 1 mile but was less successful in disrupting the 30th Division positions. One of its two attack groups, II./PzGrLeRgt 902, ran headlong into an operation by Task Force Y of CCB, 3rd Armored Division and was immediately stopped. Although there was considerable chaos in the American positions before daybreak, the US units quickly rallied. As the US Army had learned in the previous weeks of fighting, the *bocage* terrain favored the defender over the attacker. By noon, it was evident that the Panzer-Lehr-Division attack had failed. The attack did little more than delay the advance of the 9th Infantry Division by a day, but cost the Panzer-Lehr-Division about 500–700 casualties, ten Panther tanks, and eight PzKpfw IV medium tanks. The US troops were impressed by the aggressiveness of the Panzergrenadiers and a report later described prisoners as “great big, husky boys, and arrogant. .. not beaten at all.”

Following the failed attack, the Panzer-Lehr-Division was given a sector of the front to defend, roughly 5km wide. The defense was based on two *Kampfgruppen* organized around the *Panzergrenadier-Regimenter*, with Kampfgruppe *Welsch* (PzGrLeRgt 902) holding the right sector and Kampfgruppe *Scholze* (PzGrLeRgt 901) holding the left sector. Since the Panzer-Lehr-Division’s SPW had no value in positional warfare, they were parked in a holding area about 40km south of the battlefield to keep them out of harm’s way. Only a small number of SPW were used near the front lines, mainly by specialist units such as the *Pioniere*. The heavy losses in

<i>Panzergrenadier strength, Panzer-Lehr-Division, Normandy 1944</i>			
	PzGrLeRgt 901	PzGrLeRgt 902	<i>Total</i>
KStN overall strength (men)	2,600	2,600	<i>5,200</i>
KStN combat strength (men)	1,800	1,800	<i>3,600</i>
Combat strength, June 10, 1944 (men)	600	700	<i>1,300</i>
Combat strength, June 24, 1944 (men)	250	300	<i>550</i>
KStN strength (SPW)	205	205	<i>410</i>
Combat strength, June 10, 1944 (SPW)	140	160	<i>300</i>
Combat strength, June 24, 1944 (SPW)	120	130	<i>250</i>



Panzergranadiere suffered in the June–July fighting and the relatively weak allotment of infantry within the Panzer divisions forced the addition of inexperienced troops to flesh out the perimeter. These included a regiment from 5. Fallschirmjäger-Division and a *Kampfgruppe* from 275. Infanterie-Division, bringing the Panzer-Lehr-Division's front-line strength to about ten infantry battalions.

The defenses used typical German tactics with a thinly manned outpost line along the forward edge of battle, followed by a string of strongpoints, and then the mobile reserves for counterattacking. The Panzer-Lehr-Division's defense was later described by one of the division's officers:

The main German combat line consisted of a row of strong points. Each strongpoint consisted of two or three Panzers or Panzerjägers. The Panzergranadiers entrenched around them in order to survive the constant artillery and mortar fire. The well-camouflaged tanks could not move or even start their engines, otherwise they would have been discovered by the enemy. The Panzer crews were relieved every four days, and every relief would unleash a barrage that inflicted losses on the Panzergranadiers ... Behind these strong points stood mobile reserves. (Ritgen 1995: 91)

An M4A1 (76mm) of Co. D, 66th Armored Regiment (CCA, 2nd Armored Division) named "Duke" carries riflemen from the 22nd Infantry Regiment into action at the start of Operation *Cobra*.

The decision by 7. Armee to commit the Panzer-Lehr-Division to static defense was roundly criticized by Heeresgruppe B headquarters. The Heeresgruppe B commander, Generalfeldmarschall Günther von Kluge, wanted the Panzer-Lehr-Division and the neighboring 2. SS-Panzer Division *Das Reich* to be kept in army reserve to act as a mobile counterattack force. However, the 7. Armee commander, Oberstgruppenführer der SS Paul

Hausser, felt compelled to use these divisions in such a wasteful fashion since his field army lacked sufficient infantry divisions to hold the front line and he had exhausted all his reserves. Kluge was distracted by the relentless British and Canadian attacks in the Caen sector, and never made any serious effort to rectify this dangerous misuse of the Panzer-Lehr-Division in costly positional warfare.

Facing the Panzer-Lehr-Division's ten battalions were two US infantry divisions amounting to 18 infantry battalions. By July 18, 1944, after a week of brutal fighting, the US VII Corps pushed the Panzer-Lehr-Division back to the Périers–Saint-Lô road. The American intention was to wear down the German defenses through attrition, at which point an offensive would be staged to break out of the Normandy hedgerow country. This was largely dependent on the capture of the road junction of Saint-Lô, which was finally taken on July 19. During the two weeks of fighting in this sector, the Panzer-Lehr-Division lost about 1,200 troops plus additional men wounded; this did not include the losses of the attached regiments which brought the total to over 2,000. Bayerlein later estimated that his two *Panzergranadier-Regimenter* had only 450 combat effectives on July 24 at the start of the American offensive. The attachments increased this by 1,550 men including 500 troops in Fallschirmjäger-Regiment 14, 450 men in Kampfgruppe *Heintz*, and 600 men of Grenadier-Regiment 985. One battalion of PzGrLeRgt 901 was in the rear areas being rebuilt with new replacements. Of the Panzer-Lehr-Division's five battalions, three were rated as weak and two were rated as exhausted.

The American plan for Operation *Cobra* was to carpet bomb the German strongpoints south of the Périers–Saint-Lô road, blowing a hole through the German defenses, at which point the 2nd and 3rd Armored divisions would be inserted to exploit the breakthrough. Both of these armored divisions were in the “heavy” 1942 configuration and so were tank-heavy and weak in infantry. The solution to this imbalance was to attach an infantry regiment from one of the neighboring infantry divisions to an armored division, thereby bringing the mix to six tank battalions and six infantry regiments.

To ensure tank–infantry cooperation, several days of training were conducted before the operation by the 2nd Armored Division and attached units. For example, the 2/66th Armored was teamed with the 1/22nd Infantry (4th Infantry Division) in the assembly area near La Mine. The plan was to carry infantry on the tanks “in the Russian manner” with eight on an M4 medium tank and six on a M5A1 light tank:

The first step taken was to “marry-up” one infantry company and one tank company in a common bivouac area where maximum personal contact between tank and doughboy was physically possible and highly encouraged. Infantrymen were quickly familiarized with as many characteristics and capabilities of the tanks as the limited training time permitted. Among the means used to orient the attached infantry were scheduled, supervised practice rides on the back deck of tanks, tank performance demonstrations, and conferences at which company and platoon level tank–infantry tactics were stressed. At the end of the planning phase, each infantryman knew the name of his tank commander and knew the name of the tank upon which he was to ride and give his support in the ensuing action, as well as what he could expect in the way of support, and just how the team was to function. (Long 1948: 7)



Troops of the 2nd Armored Division look over the German vehicles knocked out in the bomb zone near the Périers–Saint-Lô road. The half-track in the foreground is an SdKfz 251/7 of Panzer-Lehr-Pionier-Bataillon 130, a specialized engineer version fitted with a pair of assault bridges to assist half-tracks in passing over ditches or other obstructions. The division's combat-engineer battalion was regularly used as improvised infantry, and so often was counted as a fifth *Panzergrenadier-Bataillon* in unit strength reports.

Operation *Cobra* was supposed to start on July 24, but the plan was changed due to overcast weather that obscured the target area for the US bombers. However, some bombers did not get the recall signal and bombed anyway, some of the bombs falling inside US lines. The Panzer-Lehr-Division weathered this partial air attack with modest casualties amounting to about 350 men and ten armored vehicles. Bayerlein mistakenly believed that his division had repulsed a major US attack. In anticipation of more fighting, he ordered his forward outpost line north of the Périers–Saint-Lô road to withdraw south of the road where they would be less vulnerable to US artillery. This inadvertently placed them immediately inside the most intense sector of the bomb zone the next day.

The full-scale air attack on July 25 started at 0935hrs with strafing runs by P-47 Thunderbolt fighter-bombers followed by 1,495 B-17 Flying Fortress and B-24 Liberator heavy bombers in several waves, dropping 3,370 tons of bombs into an area 7,000yd long and 2,500yd wide. A further 380 B-26 Marauder medium bombers completed the attack, bringing the grand total to 4,700 tons of bombs. The effect on the German defenses was devastating. Of the 3,600 German troops in the forward defense zone, about 1,000 were killed or wounded in the bombing attack, and at least as many severely dazed. Bayerlein later described the effects during a postwar interrogation:

Even the strongly entrenched infantry was smashed in their foxholes and dugouts by the heavy bombs, or killed and buried by the blasts. The whole bombed sector was transformed into churned fields of craters in which no human being survived ... The shock effect was nearly as great as the physical effect ... The bombing lasted nearly three hours. Some of the men went crazy or were paralyzed and unable to act. I was in the bombardment area on 24 and 25 July and so personally experienced the

tremendous impact. I had served in every theater during the war at the focal point of combat and this was the worst I ever saw ... The bombardment had a devastating morale effect on troops who were already physically and morally exhausted by 45 days of continual hard combat. The duration of the bombing, without any possibility for escape, caused despair and resignation to fate. The morale of the men who survived the bombing was so hopeless that they surrendered or escaped to the rear. Only the particularly strong-nerved and brave could endure this horror.

The German communications network, which depended heavily on field telephones, was completely disrupted. Senior commanders had little idea of what had happened to the main line of resistance, and so were unable to rally their reserve forces to stage counterattacks. There was no idea where the main American thrusts had occurred. The bombing coverage was erratic. The damage was worse in the center of the bomb zone where the heavy bombers had struck, while some defensive positions closer to the American lines, including about half the 16 Panther tanks in the strongpoints, were unscathed. As a result, German resistance along the front line was entirely unpredictable. There was strong resistance here and there, but no resistance at all in neighboring areas.

The VII Corps infantry attack began at 1100hrs with the immediate objective of seizing the crossroad towns of Marigny and Saint-Gilles about 3 miles from the start line. The western portion of the attack by the 9th Infantry Division bogged down quickly in the sector east of the Panzer-Lehr-Division, held by a *Kampfgruppe* of 5. Fallschirmjäger-Division that had escaped the bombardment. In the center, the 8th Infantry Regiment (4th Infantry Division) encountered several strongpoints of PzGrLeRgt 901. The unlucky 30th Infantry Division had been struck by both the American preliminary bombardments, and suffered 152 casualties on July 24 and a further 662 on July 25. The lead 120th Infantry Regiment ran into a surviving Panzer-Lehr-Division defensive strongpoint. The neighboring 119th Infantry Regiment encountered Kampfgruppe *Kentner* (275. Infanterie-Division), as well as a handful of dug-in German tanks around Hébécrevon supporting Kampfgruppe *Heintz*.

Some German officers outside the bomb zone later argued that the bombing actually delayed the progress of the American attack due to the chaos and devastation in the bomb zone. This was not the opinion of Bayerlein or the commanders who had witnessed the bombing first-hand.

The US infantry advance on July 25 did not reach its terrain objectives and had not secured a breakthrough. It was against US Army doctrine to start a tank exploitation until the breakthrough had been secured by the infantry. However, the VII Corps commander, Major General "Lightning Joe" Collins, felt that the crust of the German defenses had been broken. Collins had led VII Corps during the June fighting to seize Cherbourg and he knew that German units reflexively staged counterattacks to regain lost ground. Yet the German response to the American attacks on the first day of the offensive had been feeble. Under these circumstances, Collins used his own judgment, ignored the strictures of doctrine, and ordered the exploitation phase to begin. The 2nd Armored Division was assigned to push through the Panzer-Lehr-Division defenses, while the neighboring 3rd Armored Division was assigned to push through the German defenses farther west toward Marigny.



An M4 medium tank named "Fury" of Co. F, 66th Armored Regiment at the start of Operation *Cobra* with an infantry team from the 22nd Infantry Regiment on board.

The 2nd Armored Division mission on July 26 committed only one of its three combat commands. Collins felt that the constricted terrain would lead to traffic jams if all three combat commands were pushed into the breach. This had happened two weeks before when a combat command of the 3rd Armored Division had been pushed into the Vire bridgehead. Instead of using tanks with the infantry in half-tracks which might aggravate the congestion, the 2nd Armored Division decided to use tank-rider tactics for the spearhead Combat Command A during the breakthrough, and then use the more traditional tank/half-track mix in Combat Command B during the exploitation phase. As mentioned above, CCA was based around a tank regiment from the 2nd Armored Division, and the 22nd Infantry Regimental Combat Team (RCT).

In the wake of the first day's staggering losses, the Panzer-Lehr-Division had very limited resources to reinforce its shattered front. At 0300hrs on July 26, the dozen surviving PzKpfw IV tanks of II./PzLeRgt 130 were sent forward to reinforce the *Panzergrenadier* and infantry strongpoints of Kampfgruppe *Welsch* on the road north of Saint-Gilles. For example, 7./PzLeRgt 130, with four PzKpfw IV tanks, was ordered forward to support Kampfgruppe *Scheele* (275. Infanterie-Division) in the area north of Saint-Gilles. These reinforcements were too paltry to stiffen the main line of resistance. What was desperately needed was more experienced *Panzergrenadier* troops, but the reserve simply did not exist in adequate strength.

On July 26, the assault by CCA, 2nd Armored Division started at 0945hrs with a line of departure near Hébécrevon. There was scattered resistance near the start line, but the main factor slowing the advance was the hedgerow terrain that took time to traverse. Once the initial resistance was overcome near the line of departure, reconnaissance units were unleashed, with companies from the division's 82nd Armored Reconnaissance Battalion performing deep scouting for the task forces.

The first serious resistance was not met until the American columns reached a strongpoint 800yd north of Saint-Gilles consisting of a dug-in *Panzergrenadier*

force backed by four PzKpfw IV tanks of 5./PzLeRgt 130 and a single assault gun. The lead columns called for air support and a squadron of P-47 fighter-bombers on column-cover attacked the strongpoint near the road with 500lb bombs. Surviving *Panzergranadiere* and German tanks withdrew into Saint-Gilles, but the hasty defense of the village was quickly overcome. A subsequent strongpoint was based around a few Panther tanks of 4./PzRgt 6, but they were scattered about with no cohesive defense scheme. The tank-rider tactic was later described by the commanding officer of the 22nd Infantry Regiment:

The first wave of tanks penetrated the enemy lines unaccompanied by infantry. Infantry on tanks in the second wave protected them from German bazookas and hand launchers. When necessary, the infantry could get off the tanks and fight on foot with the regular infantry fight covered by tank fire. In the third wave there were more infantry on tanks as moppers-up.

The town of Canisy was weakly defended and was secured by CCA, 2nd Armored Division around 1900hrs. The American columns continued to proceed southward, encountering numerous small German formations in chaotic attempts to either retreat or move to the battle-front. The lead task force reached the Le Mesnil-Herman road junction after midnight. CCA had advanced 9 miles during the course of the day, undermining the Panzer-Lehr-Division's brittle defenses.

A later assessment of the tank-rider tactics of CCA, 2nd Armored Division concluded that there were at least seven advantages to the tactics:

1. The German machine guns are always sighted for grazing fire about two feet off the ground. If you have the infantry up behind the turret, they are above this grazing fire and are protected from the front and partially from the flanks.
2. Men riding the tanks are moving targets. They move at irregular and unpredictable speeds and follow a changing course.
3. From any distance at all, it is difficult to silhouette infantry on tanks if branches and camouflage are on tanks. Infantry cannot be seen from 100 yards sometimes.
4. The Germans are trained to get into their holes when tanks roll over them and shoot at the following infantry. Instead, our infantry is riding on top of them and can even get off and into their holes.
5. The Germans do not lay mortar fire on tanks but they do in the fields. The doughboys are up above the spray of the German mortar ground burst.
6. The doughboys get much better observation. They are blind on the ground, but can see much more when up on the tanks.
7. There is a psychological effect of looking down on your adversary. (Creamer 1947: 42–43)

By dawn on July 27, the Panzer-Lehr-Division was no longer an effective fighting force. The division's reconnaissance battalion, Panzer-Aufklärungs-Lehr-Abteilung 130, near Percy and Panzer-Lehr-Pionier-Bataillon 130 near Carantilly had been the division's sole reserve, and these two exhausted units were hastily moved forward to reinforce the "Yellow Line." This defense was so weak and diluted that it was quickly overrun. The division had only nine surviving tanks and six assault guns. Late in the evening of July 26, Bayerlein



An M2 half-track of the 41st Armored Infantry Regiment (CCB, 2nd Armored Division) during Operation *Cobra*. This half-track was one of several that were re-armed with surplus 37mm antitank guns, though the gun is largely obscured in this view by the crew. The squad members are wearing the distinctive and controversial camouflage battle-dress, which was largely discontinued after August 1944 as it too often led to troops of the 41st Armored Infantry Regiment being misidentified as Germans.

was ordered by Generalleutnant Dietrich von Choltitz, the commander of LXXXIV. Armeekorps in Normandy, to prepare a counterattack against the CCA spearhead near Le Mesnil-Herman the following day. By this stage Bayerlein had learned that it was pointless to argue with Choltitz about the impossibility of such a scheme. He was promised a battalion of Panther tanks from 2. SS-Panzer-Division *Das Reich*. In fact, only a company was sent and it only reached as far as Quibou before halting. The planned counterattack was an impossible fantasy under the circumstances.

The first task of CCA, 2nd Armored Division on the morning of July 27 was to secure the village of Le Mesnil-Herman, which had been reinforced by Bayerlein during the night in anticipation of the planned counterattack. While the German forces around Le Mesnil-Herman were not strong enough to counterattack, they did provide for a stiffer defense than was anticipated, with the result that the village and its surroundings were not fully secured until 1500hrs. By mid-afternoon, with the crossroad secure, CCA formed two task forces to exploit farther south, encountering numerous rearguards from remnants of the Panzer-Lehr-Division before halting at dusk.

With the German defenses in a state of chaos, CCB, 2nd Armored Division was prepared for movement. Its mission was to advance through the gap between CCA, 2nd Armored Division and the 1st Infantry Division/3rd Armored Division team to the west. This was a classic exploitation mission, and the M5A1 light tanks and M8 armored cars of the 82nd Armored Reconnaissance Battalion took the lead. Speed was more essential than firepower. CCB included two battalions from the 41st Armored Infantry Regiment, mounted on half-tracks. The original plan was to use two task forces in parallel, but there was only a single viable road network and cross-country movement was too slow due to the *bocage* that bordered the fields along the road. As a result, the main CCB task force consisting of the 2/67th Armored and the 3/41st Armored Infantry moved down the road

Here, an M1 57mm antitank gun of the 41st Armored Infantry Regiment is set up on the streets of Pont-Brocard, center of the German Red Line defenses. An M4 medium tank passes by in the background. In the background is an abandoned SdKfz 251/3 armored radio half-track of the Panzer-Lehr-Division.



while two smaller groups consisting of single tank companies teamed with half-track infantry of the 41st Armored Infantry proceeded on either flank where the local road network permitted.

The first roadblock was encountered at Quibou, part of the Panzer-Lehr-Division's Yellow Line defenses. This had served as a collection point for German troops withdrawing the previous evening. The town was defended by two Panther tanks and an assortment of Panzer-Lehr-Division troops. After overcoming this force, the American columns continued through Dangy. The town was defended by a *Panzergrenadier* company and a 7.5cm antitank gun that was overcome with tank fire and dismounted infantry.

The next major town on the road, Pont-Brocard, was part of the third Red Line defenses on the Soules River and was defended by a *Kampfgruppe* consisting of two understrength companies of Panzergrenadier-Lehr-Regiment 901 and the remaining troops of Panzer-Lehr-Pionier-Bataillon 130 along with a few antitank guns and 8.8cm Flak guns. This defense line was overrun around 1630hrs. Bayerlein and the divisional command post were located near of the edge of the woods east of Pont-Brocard using a bus as a mobile command post. The main headquarters was bypassed by M5A1 light tanks and the staff fled to a neighboring apple orchard where the HQ radio section was located. In exasperation, Bayerlein sent out a bitter radio message to corps headquarters: "After 49 days of fierce combat, the Panzer-Lehr-Division is finally annihilated. The enemy is now rolling through all sectors, from St. Gilles to the south. All calls for help have gone unanswered because no one believes the seriousness of the situation."

The fighting on July 25–27 had reduced the Panzer-Lehr-Division to a torso division with few combat-effective troops. Much of its core administrative and service elements survived the battle even though its *Panzergrenadier* and Panzer troops did not. It was this combat-ineffective "torso" that retreated and was later used to reconstruct the division for further actions along the German frontier in September 1944. Operation *Cobra* had successfully pushed aside the main German defense line, permitting a First US Army break-out from Normandy toward Paris. The 2nd Armored Division would cross the French frontier into Belgium four weeks later.

Réchicourt-la-Petite

September 26–29, 1944

BACKGROUND TO BATTLE

General der Panzertruppe Hasso von Manteuffel's 5. Panzer-Armee launched a counteroffensive against Lieutenant General George S. Patton's Third US Army in Lorraine in mid-September 1944 in an attempt to cut off its spearhead, the 4th Armored Division, before it reached the Saar region on Germany's western border. This resulted in a series of intense tank battles around the town of Arracourt. The bulk of these attacks were conducted by the newly formed Panzer brigades, which suffered very heavy losses in the process. By the third week of September, the surviving remnants of the Panzer brigades were absorbed into the neighboring Panzer divisions. The tank fighting resulted in very heavy attrition in the Panzer strength of 5. Panzer-Armee, though *Panzergrenadier* strength was less adversely affected since there had been far less infantry action.

The 4th Armored Division halted its offensive actions toward the German frontier on September 22–23 as part of the general consolidation of the Third US Army. By mid-September, the Allied armies had outrun their supply lines and there was a general shortage of fuel and ammunition. Patton had informed his corps and divisional commanders of the situation, and plans were drawn up to establish a main defense line on favorable terrain. The 4th Armored Division commander, Major General John Wood, along with the leaders of his combat commands, selected a defensive

As in other armored-infantry battalions, the 4th Armored Division modified many of their M4 81mm mortar carriers to permit the mortar to fire forward rather than in the original rearward configuration.



Lacking SPW, the *Panzergranadiere* rode into battle on the engine decks of the supporting tanks in many of the battles around Arracourt. Here, the troops of Panzergranadier-Regiment 111 mount up on the Panther tanks of I./PzAbt 16 in the village of Bures on the morning of September 20 for the attack toward Arracourt.



perimeter to the north and northeast of Arracourt. This defense line ran along the tops of several hills and plateaus that offered good visibility over opposing German positions. In the early evening of September 25, Lieutenant Colonel Bruce C. Clarke's CCA pulled back south of the Metz–Strasbourg road to the new defensive perimeter. Armored divisions were not ideal for defensive missions such as this due to their relatively small numbers of riflemen compared to an infantry division: only three rifle battalions versus nine. As a result, some sectors of the line had to be covered by an attached engineer battalion employed as infantry as well as divisional cavalry.

By this stage of the fighting, 11. Panzer-Division had belatedly arrived on the scene. This division had been located in southern France at the time of the Operation *Dragoon* landings there on August 15, 1944, and it had served as the main rearguard for Heeresgruppe G during its retreat up the Rhône Valley to Alsace. It was shifted from 19. Armee to 1. Armee in mid-September 1944 to take part in the Lorraine offensive, but arrived too late to play a role in the original Panzer offensive around Arracourt. The division had one SPW battalion, I./PzGrRgt 110, while the other three battalions in Panzergranadier-Regiment 110 and Panzergranadier-Regiment 111 were motorized. At the start of September 1944, it still had 164 SPW, but only 25 tanks from its starting strength of 139 tanks earlier in the summer. At the time of the Arracourt fighting, it had a very weak Panzer element, but still had a substantial Panzergranadier force. Its mobility was rated at 86 percent. In addition, it absorbed the tanks and troops of Panzer-Brigade 113, though these remained as a separate formation within the division.

The German plans for the final week of September 1944 were to eliminate the salient held by the 4th Armored Division around Arracourt. The staging areas for these attacks were mainly from the wooded Fôret de Parroy to the southeast of the American salient, and from the area immediately north of the salient.

INTO COMBAT

During the early afternoon of Monday, September 25 the Heeresgruppe G commander, General der Panzertruppe Hermann Balck, sent out instructions for a continuation of attacks on September 26. Manteuffel's 5. Panzer-Armee was again instructed to seize Bézange-la-Grande. In the event, fighting on September 26 was limited by the continuing rainy weather and atrocious battlefield conditions.

The 4th Armored Division used most of the day to conclude its internal reorganization as it shifted to a defensive posture. The forward defense line was now held by the 4th Armored Division's three armored-infantry battalions. Col Holmes Dager's CCB took over the southern sector of defenses facing XLVII. Panzerkorps. Colonel Bruce Clarke's CCA remained concentrated in the Arracourt area and the northern sector. They selected defensive positions on the hills that gave their units a good vantage point, looking down on neighboring German positions in the area. The after-action report by the 51st Armored Infantry Battalion summarized the situation succinctly: "It was obvious that the Battalion's present position must be held at all costs since the loss of any of the front would give the enemy a vantage point from which observed artillery fire could be placed on any position of Combat Command B's area." CCB, 4th Armored Division reported that "One of the few confrontations of the day occurred during the movement by CCB to new positions. While on the march, elements of CCB were attacked by an enemy column of half-tracks and other vehicles, but accurate artillery concentrations broke up the attack at its inception, destroying 3 tanks and 5 armored cars."

The 10th Armored Infantry Battalion in the hills overlooking Bézange-la-Petite saw more action that day than in the other sectors. The unit's after-action report recalled that:

It was early afternoon when the enemy started his first counterattack with tanks supported by dismounted troops. The enemy was desperately trying to seize and establish himself on the high ground and thereby make our positions untenable. Our lines were continuously counterattacked by the enemy from all sides. These attacks were repulsed with heavy losses in men and materiel to the enemy. The artillery and the tank destroyers attached to this unit materially assisted in keeping the enemy back. It was a firm struggle all day long. Shortly after Company B established its CP, enemy artillery shelled that position with such ferocity that it was necessary to change position. When darkness fell, the enemy artillery quieted down. Attempts were made to infiltrate our lines.



A close-up of *Panzergranadiere* on the engine deck of a Panther tank of Panzer-Brigade 111 in Bures prior to the attack on the morning of September 20. The two nearest soldiers are armed with *Panzerfaust* antitank rockets.

The battle for Réchicourt-la-Petite, September 25–29, 1944

MAP KEY

- 1 Evening, September 25:** CCA, 4th Armored Division pulls back from its defenses along the Metz–Strasbourg road as part of an effort to establish more solid defenses on the hills around Arracourt.
- 2 1300hrs, September 26:** Elements of Panzergrenadier-Regiment 111 probe the defenses of the 10th Armored Infantry Battalion in the hills over Bézange-la-Petite, but the weather is too poor for the attack to gain much traction.
- 3 1000hrs, September 27:** With a lull in the rain, II./PzGrRgt 110 stages a diversionary attack on Hill 318.
- 4 1000hrs, September 27:** The rest of Panzergrenadier-Regiment 110 continues its attack in the northern sector against the 53rd Armored Infantry Battalion, but the attack is shattered by a concentrated artillery fire.
- 5 1100hrs, September 27:** Fighting resumes in the Panzergrenadier-Regiment 111 sector with attempts to secure the hills over Réchicourt.
- 6 1100hrs, September 27:** The main attack by Kampfgruppe *Hammon* is staged against Co. C, 51st Armored Infantry Battalion on Hill 318, marking the start of several days of bitter fighting for the hill. After reinforcements arrive from II./PzGrRgt 110, the top of the hill is taken, at least for the moment.
- 7 1430hrs, September 27:** A small task force from the 35th Tank Battalion conducts a spoiling raid out of the 53rd Armored Infantry Battalion's defense line to smash up the German infantry in the town of Xanrey. It returns around 1630hrs.
- 8 Dawn, September 28:** The 51st Armored Infantry Battalion retakes the forward slope of Hill 318 from Kampfgruppe *Hammon*. The hill crest is lost later in the morning, but is retaken again by the 51st Armored Infantry Battalion around noon.
- 9 Nightfall, September 28:** Kampfgruppe *Hammon* secures the south face of Hill 318 and the 51st Armored Infantry Battalion withdraws over the crest. After a concentrated artillery barrage on the German positions, the 51st Armored Infantry Battalion attacks over the hill and secures the south face for the time being.
- 10 1900hrs, September 28:** After a day of fighting, Panzergrenadier-Regiment 111 seems poised to push through the 10th Armored Infantry Battalion defenses above Réchicourt, only to be slapped down by heavy artillery concentrations.
- 11 Dawn, September 29:** Co. C, 8th Tank Battalion moves forward in the darkness to Hill 318 and around dawn hears heavy vehicular movement on the German side. The fog is too thick to spot the German movement; the tanks remain on the reverse slope waiting for the weather to clear.
- 12 1015hrs, September 29:** The combined German force infiltrates up the south slope of Hill 318 under the cover of fog and pushes the 51st Armored Infantry Battalion back over the crest by 1015hrs.
- 13 Noon, September 29:** The fog finally lifts and the 8th Tank Battalion calls in fighter-bombers to pummel the Germans holding Hill 318. By early afternoon, the exhausted German forces make a headlong retreat off Hill 318.
- 14 Afternoon, September 29:** Panzergrenadier-Regiment 11 manages to push Co. A, 10th Armored Infantry Battalion over the reverse slope and back into the Co. C defenses on Hill 265; but by this stage, the German forces are too weak to continue and the fighting finally peters out.

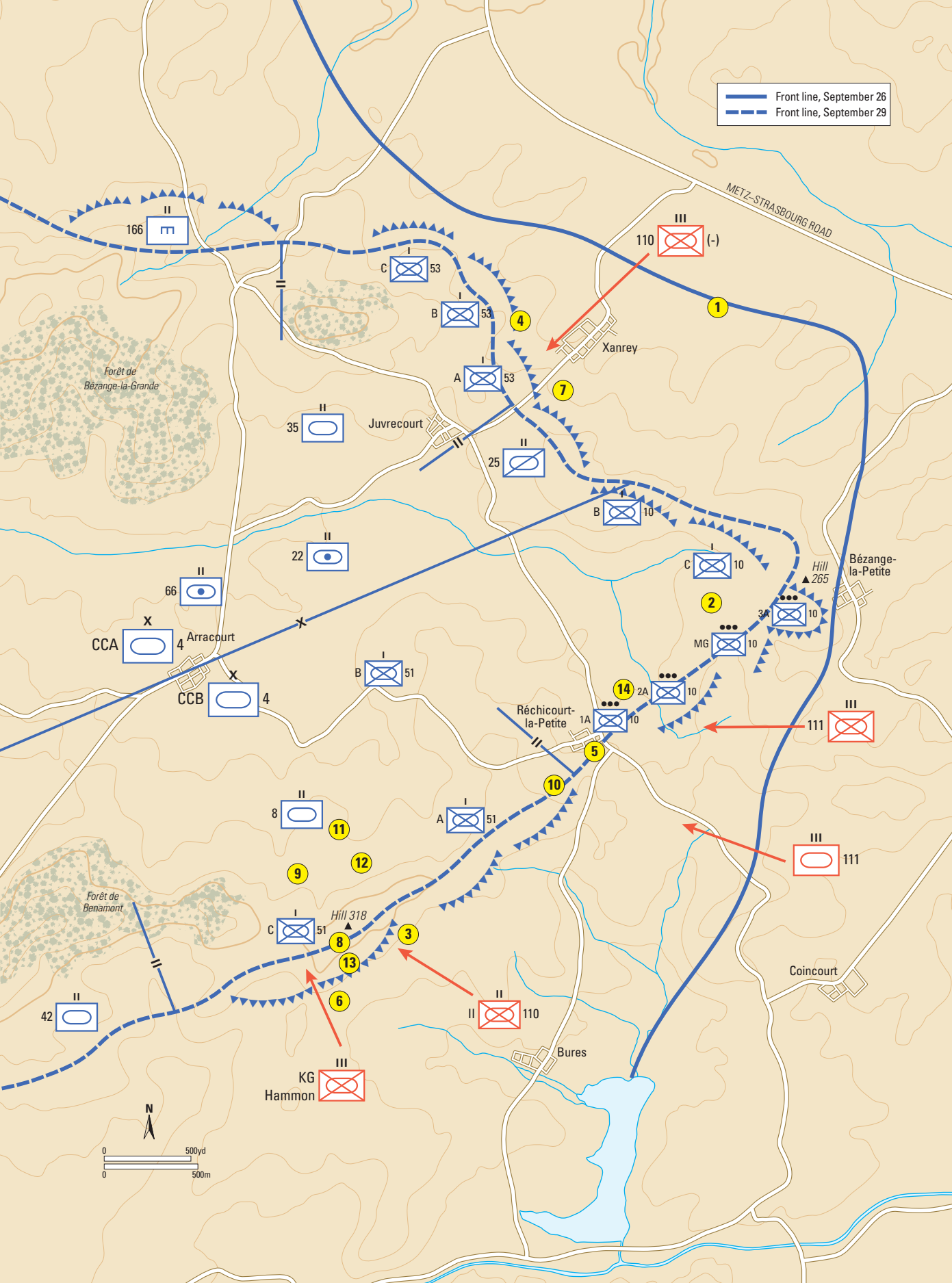
Battlefield environment

The Arracourt battlefield consisted mainly of farmland interrupted by occasional small forests and towns. Although the terrain was relatively flat, there were numerous shallow hills that played an unusually significant role in the fighting since they overlooked the surrounding terrain. The 4th Armored Division deliberately selected a series of hills for their defensive perimeter. The most significant terrain feature during the fighting during September 26–29 was a camelback hill formation (with Hill 265 in the north overlooking the village of Bézange-la-Petite) that extended to the southwest past the village of Réchicourt-la-Petite to Hill 318.

The weather in late September 1944 was especially rainy, to the point that the farm fields became a morass of glutinous mud so deep that it interfered with combat operations. Morning fog was very common, especially in the low-lying areas at the base of the hills, which restricted US air support.



This is a view of the reverse slope of Hill 318 from the perspective of the American side. The troops of the 51st Armored Infantry Battalion established defensive positions along the top of this hill line.



Once the weather cleared and the mud began to dry, the German attacks resumed on Wednesday, September 27. Due to the muddy terrain conditions, the *Panzergranadiere* fought dismounted and few SPW were in use. Manteuffel sought to secure the camelback plateau of Hills 318 and 293 on the southern flank of the 4th Armored Division positions that overlooked the 5. Panzer-Armee positions around the Parroy forest. He ordered the commander of 11. Panzer-Division, Generalleutnant Wend von Wietersheim, to create an additional *Kampfgruppe* to attack from Bures toward Arracourt. *Kampfgruppe Hammon* consisted of the remaining *Panzergranadier* units of Panzer-Brigade 113 and the division's reconnaissance battalion, Panzer-Aufklärungs-Abteilung 11, supported by about 25 tanks.

The Wednesday attacks started with a diversionary advance by Panzergranadier-Regiment 110 on the northeastern end of the salient held by the 53rd Armored Infantry Battalion. Panzergranadier-Regiment 111 supported by a few tanks occupied the village of Bézange-la-Petite below the positions of Co. C, 10th Armored Infantry Battalion on Hill 265. The brunt of the attack on September 27 again fell on the positions of Co. A, 10th Armored Infantry Battalion near Réchicourt, between Hill 265 and Hill 318. The company was very depleted due to previous combat and its battered 3rd Platoon was down to only 15 men from a starting strength of more than 40. During the day's fighting, Lieutenant James H. Field of 1st Platoon, Co. A, 10th Armored Infantry Battalion, led a counterattack and persisted in the fighting in spite of severe facial wounds, finally routing the *Panzergranadiere*. He was later decorated with the Medal of Honor, the first awarded in Patton's Third US Army. Field eventually had to be evacuated due to the severity of his wounds and an officer from the neighboring Co. C took over 1st Platoon.

A German tank moved to within 150yd of the 1st Platoon trenches and began shelling them. American machine-gun and small-arms fire killed the exposed Panzer commander, and forced the crew to button up. The small-arms fire also killed or wounded the accompanying *Panzergranadiere*, and so the Panzer moved back to a defilade position from where it continued to shell the foxholes. Harried by German tank and artillery fire, US tank destroyers in the neighboring Co. C positions refused to move out of their entrenchments to relieve Co. A. Eventually 1st Platoon was obliged to withdraw closer to the town of Réchicourt. The company commander, Captain Thomas J. McDonald, attempted to contract the defensive perimeter because the original positions were under direct observation of German artillery observers from the Moncourt area, the company had no medical support for the wounded, and there was a lack of any radio or field-telephone links to higher headquarters. Co. A had gone into the line with 224 men and was reduced to 116 men in less than 48 hours of fighting.

On September 27, Wietersheim shifted II./PzGrRgt 110 to support the attack's southern sector against the 51st Armored Infantry Battalion. The *Panzergranadiere* infiltrated past the farm at the base of Hill 318, and after bitter fighting, *Kampfgruppe Hammon* reached the top of the hill and the edge of the neighboring woods. The crest of Hill 318 became the focus of the fighting over the next few days between the 51st Armored Infantry Battalion and *Kampfgruppe Hammon*. The 51st Armored Infantry Battalion after-action report noted on September 27 that:



This is a view of the village of Réchicourt-la-Petite facing north with Hill 265 to the upper right. This was the area held by Lieutenant James H. Field's 1st Platoon, Co. A, 10th Armored Infantry Battalion during the fighting on September 27, 1944.

The company commanders reported that morale was low. The men had been taking too much of a beating without rest. They had been subjected to a great deal of heavy artillery in the last week or so and it was beginning to tell on them. There were 17 battle fatigue cases today, and it was feared that the number would mount soon. The men were cold, damp, and generally miserable, lying in their holes all day.

The *Kampfgruppe* of I./PzGrRgt 110 had been continuing its attacks in the northeastern sector against the 53rd Armored Infantry Battalion with a night attack on September 26/27. The attack was beaten off, but the German attacks resumed around 1000hrs on September 27 from the area around Xanrey. The morning attack had advanced only 1,800yd toward the positions of the 53rd Armored Infantry Battalion when it was stunned by a concentrated barrage from the six field-artillery battalions supporting Clarke's CCA. The attack disintegrated and the Panzers withdrew. The 35th Tank Battalion formed a small task force with a few tank companies and two platoons of riflemen to "burn Xanrey to the ground." In the raid, Lieutenant Colonel Oden estimated about 135 German infantry were killed. Two M4 tanks were lost in the raid after running over mines. The task force withdrew back to the start positions around 1630hrs.

Manteuffel's orders for Thursday, September 28 were blunt: "take Hills 293 and 318, then press farther toward the northwest in the direction of Arracourt." At dawn on September 28, the 51st Armored Infantry Battalion retook the forward slope of Hill 318 from *Kampfgruppe Hammon*, but the fighting surged across the crest through the day with the Germans temporarily regaining control. As the weather began to clear, US fighter-bombers intervened. There were 107 fighter-bomber sorties, with the P-47s leveling the village of Bures and badly disrupting the concentration of German reinforcements there. After pushing back three more German attacks, the GIs of the 51st Armored Infantry Battalion again retook Hill 318 around noon. The *Panzergrenadiere* received little artillery support that day as the artillery batteries had moved during the night to new positions, and their forward observers were not in place until late in the day. A final German attack was broken up by





The final push

At dawn on September 29, 11. Panzer-Division began its final concerted push to overrun the American defenses on both hills. At first, the dense fog and darkness limited visibility to a few dozen yards, allowing the German advance up the hill to go unhindered by air attack or precise artillery fire. When the fog lifted around 1100hrs, however, the *Panzergranadiere*

faced not only the “armored doughs” of the armored-infantry battalions of the 4th Armored Division, but companies of M4 medium tanks in direct support. The clearing skies also brought the American P-47 Thunderbolt fighter-bombers, which launched remorseless attacks against the advancing German troops.

American artillery fire before it could reach its objective. After dark, the Germans sent in another assault force supported by tanks which secured the southern face of Hill 318. The 51st Armored Infantry Battalion withdrew over the northern slope, but were hit by a heavy German artillery barrage. The 4th Armored Division responded with a fire strike against the south slope by four artillery battalions, followed by a 51st Armored Infantry Battalion counterattack which secured the southern high ground around midnight. Sporadic fighting on Hill 318 continued through the night of September 28/29.

The fighting on neighboring Hill 265 was nearly as intense. At 1900hrs, a German infantry attack against Co. A, 10th Armored Infantry Battalion forced one of its platoons to pull back, but the attackers were brought under intense American artillery fire. Wietersheim requested to Manteuffel that his troops be allowed to break off the attacks to get some rest or they would simply lose their combat effectiveness. Due to intense pressure from Berlin, Manteuffel refused and insisted that the attacks must continue. The German attack around Réchicourt and Hill 265 faltered for a variety of reasons. The attacks against Réchicourt by Panzergranadier-Regiment 111 received less artillery support than anticipated since the majority of the divisional artillery was out of range. The plan to reinforce the attack on Réchicourt with Kampfgruppe *Hammon* stalled when the exhausted *Kampfgruppe* halted in Coincourt.

On the American side, the relentless fighting led to a sharp rise in the number of combat-exhaustion cases, especially among the riflemen of the armored-infantry battalions who were bearing the brunt of the fighting. “This trend is due to numerous causes, among which are: length of time in combat, extensive rain, little rest, lack of hot food, and a feeling that they are not fitted for a holding mission.” By dawn on September 29, 11. Panzer-Division had reinforced its units opposite the CCB positions on Hill 265 and Hill 318 from other sectors, with the intention of making one concerted push over the hills. Massing near the smoldering ruins of Bures, its forces included the Panzer-Aufklärungs-Abteilung 11, a battalion from Panzergranadier-Regiment 110, an armored combat-engineer company, and the remaining tanks of Panzer-Brigade 111 and Panzer-Brigade 113. The armored strength in the sector included 18 PzKpfw IV, 20 Panthers, and 11 Flakpanzer IV self-propelled anti-aircraft guns. The attack began shortly before daylight.

In the pre-dawn hours, Captain Eugene Bush, commander of Co. C, 8th Tank Battalion, reported that “it sounded as if enemy vehicles were coming right into my area.” The dense fog and darkness limited visibility to a few dozen yards. The initial German attack on Hill 318 in the early-morning



The armored infantry of the 4th Armored Division fought dismounted in the late-September battles. These are riflemen of the 10th Armored Infantry Battalion photographed a few weeks after the Arracourt battles.

hours pushed the 51st Armored Infantry Battalion back about 500yd and the Germans controlled the forward crest of Hill 318 by 1015hrs. Given the heavy casualties suffered by the 51st Armored Infantry Battalion, Col Dager ordered the 8th Tank Battalion to send two companies of tanks to provide direct fire support. The fog was still so thick that movement of the tanks in the featureless mud of the farm fields proved difficult. Dager told the tank-company commanders to wait until the fog lifted before moving over the crest. The tanks of Co. A were unable to reach the crest due to stiff German resistance. When the fog lifted around 1100hrs, the tanks of Co. C discovered they were already on the crest, and they immediately came under intense German mortar fire. Captain Bush requested air support.

A tactical air liaison officer with the group directed P-47 Thunderbolt strikes on the Panzers in the field below where they were massing for another attack. Without the fog for protection, the German troops were exposed. The initial air attacks were limited to strafing because the fighter-bombers had been diverted from a planned mission over Metz and their bomb racks were armed with nothing more than propaganda leaflets; but during the course of the day, the 405th Fighter Group carried out several low-altitude air strikes against the German forces preparing to reinforce their positions on Hill 318. Besides knocking out tanks with bombs and rocket fire, the air strikes managed to drive a number of German tanks out of the cover of woods, where they were then exposed and struck by artillery fire. Bush later remarked that "the Air Corps really did the trick!" The tanks of Co. C began firing on the German tanks at the base of the hill, claiming six during the day's fighting. The 11. Panzer-Division commander later recalled:

In a few minutes, eighteen of our tanks and several armored personnel carriers were burning! Our own infantry retreated, strangely enough not pursued by the enemy ... As a result, any chance of winning our final objective had been frustrated.

A survivor of the Arracourt battles, this SdKfz 251 Ausf D half-track from Panzer-Aufklärungs-Abteilung 11 (11. Panzer-Division) was knocked out by CCB, 6th Armored Division on November 19 during the fighting for Grostenquin in Lorraine.



We had suffered losses that could have been prevented if only we had been satisfied with the line already gained which was suitable for the defense.

The fighting by Panzergrenadier-Regiment 111 against the neighboring 10th Armored Infantry Battalion that day was mainly directed against the right flank held by Co. A, 10th Armored Infantry Battalion near Réchicourt and Co. C on Hill 265. The GIs were finally pushed back to the reverse slope of the hill, but held their positions. By the middle of the afternoon on September 29, the German troops were in full retreat off Hill 318. After three days of intense fighting, with little sleep and heavy casualties, many of the German units disintegrated. The commander of Kampfgruppe Bode (Panzer-Aufklärungs-Abteilung 11), Major Karl Bode, suffered a nervous breakdown. The German staging area at the base of the plateau had the Marne Canal at its back, and many of the troops feared that the Americans might charge down off the plateau and trap them against the water obstacle. The neighboring 15. Panzergrenadier-Division was forced to set up a straggler line with tanks near Parroy in an attempt to restore some order. The surviving Flakpanzers were positioned in Parroy and Bures in an attempt to ward off the continuing air attacks, but they were almost completely ineffective. The corps commander's report to Manteuffel was blunt: "Hill triangle lost. Troops exhausted, need rest."

The September 29 attack represented the last major attempt by 5. Panzer-Armee to cut off the Third US Army's spearhead near Arracourt. The final four days of attacks on CCA, 4th Armored Division had already cost 5. Panzer-Armee about 700 killed and 300 wounded. A total of 23 tanks and several armored half-tracks were knocked out according to German accounts of the fighting. Only four tanks remained operational by the end of the day.

On September 29, while the fighting was still raging on the hills east of Arracourt, Balck visited the Western Front commander, Generalfeldmarschall Gerd von Rundstedt, at his headquarters in Bad Kreuznach. Balck told the field marshal that if his forces did not receive reinforcements with at least 140 tanks and more artillery, it would be impossible to secure Arracourt. Rundstedt replied that any reinforcements were out of the question, and tacitly accepted that the Lorraine offensive would come to an end without fulfilling Hitler's objective. At 2300hrs, Balck instructed Manteuffel to call off the attack. The exhausted 11. Panzer-Division was pulled out of the line and defensive positions were secured.

The battle for Rodt

December 20–23, 1944

BACKGROUND TO BATTLE

Of the three German armies that staged the Ardennes operation, the only one to gain a significant breakthrough was General der Panzertruppe Hasso von Manteuffel's 5. Panzer-Armee in the center. After encircling the newly arrived and inexperienced 106th Infantry Division on the Schnee Eifel, the Germans created a substantial rupture in the American line. This rupture facilitated the advance of the southern elements of SS-Oberstgruppenführer Josef "Sepp" Dietrich's 6. Panzer-Armee, notably Kampfgruppe *Peiper* of 1. SS-Panzer-Division, as well as elements of 5. Panzer-Armee, especially the drive of 116. Panzer-Division toward Houfallize. The full exploitation of this sector was hampered by an extended American salient around the key road and rail junction of St. Vith, however, which acted as "a thumb down the German throat." The German plan had presumed that St. Vith would serve as the major rail hub to support the offensive, so its capture was vital.

St. Vith had been the headquarters of the hapless 106th Infantry Division. Two of the division's three infantry regiments had been surrounded in the initial German attack and surrendered. Recognizing the importance of this sector, Eisenhower had ordered two US armored divisions into the area to stem the German advance. By December 17, Brigadier General William Hoge's CCB, 9th Armored Division had begun to arrive and began reinforcing the surviving 424th Infantry Regiment (106th Infantry Division). Brigadier General Bruce Clarke's CCB, 7th Armored Division began arriving in St. Vith on the same day and Clarke took overall command of the St. Vith defenses. German troops began appearing on the eastern fringes of St. Vith by the late afternoon of December 17.

The initial German attacks on St. Vith were uncoordinated due to the rush to move westward. Elements of Kampfgruppe *Hansen* of 1. SS-Panzer-Division

The Führer-Begleit-Brigade's sister unit was the Führer-Grenadier-Brigade that was organized in a similar fashion. The brigade was committed piecemeal to the fighting near Bastogne, and one of its *Kampfgruppen* attacked the 80th Division in Heiderscheid on Christmas Eve 1944. It suffered significant losses in the fighting, including the StuG III assault gun to the left and this SdKfz 251/17 with a shielded 2cm autocannon in a *Schwebelafette* pedestal mount.



bumped into the western American defenses near the Poteau crossroads, while infantry forces from 18. Volksgrenadier-Division probed along the eastern edges of St. Vith. The bitterest fighting on December 18 took place around Poteau as CCA, 7th Armored Division attempted to seize the town, which was essential to keep open supply lines to the rear. As further elements of the 7th Armored Division began to arrive, they were deployed on the northern and eastern perimeters of St. Vith while CCB, 9th Armored Division took up the positions on the southern flank.

Manteuffel had expected his units to capture St. Vith on the first day of the offensive. On the night of December 17/18, he discussed the problem with Heeresgruppe B commander, Generalfeldmarschall Walter Model, who suggested that the Führer-Begleit-Brigade (FBB: Führer Escort Brigade) be committed to destroying the St. Vith pocket.

The Führer-Begleit-Brigade was commanded by Oberst Otto Remer, a personal favorite of Hitler after he played a central role in suppressing the Operation *Valkyrie* coup attempt in Berlin on July 20, 1944. The brigade had its origins early in the war when Hitler's original bodyguard unit, the Leibstandarte-SS *Adolf Hitler*, began to be committed to combat operations. As a result, Generalmajor Erwin Rommel was instructed to form a Heer defense battalion for Hitler's personal security. When the elite Infanterie-Regiment *Großdeutschland* was expanded to a division in March 1942, the Führer-Begleit-Bataillon was brought under its purview and became a motorized formation as the Führer-Begleit-Abteilung. It was headquartered at Hitler's Wolfsschanze (Wolf's Lair) forward headquarters in Rastenburg, East Prussia. In September 1944, in the wake of the Operation *Market-Garden* airborne landings in the Netherlands, Hitler ordered Remer to expand the unit into a brigade with a mission to protect the Wolfsschanze against a possible airborne attack (Remer 1947: 1). When Hitler moved his headquarters back to Berlin in November 1944, the Führer-Begleit-Brigade became redundant and was committed to the Ardennes offensive as the principal mobile reserve force of Manteuffel's 5. Panzer-Armee.

Owing to its unique origins, the Führer-Begleit-Brigade had a non-standard organization. It somewhat resembled the second-wave *Panzer-Brigaden* organized in the late summer of 1944, but was larger, with a nominal strength of 7,177 troops and an actual strength of 6,037 at the start of the Ardennes campaign. Major Schnappauf's Panzer-Regiment *Führer-Begleit-Brigade* was

supposed to consist of three battalions. The former II./PzRgt GD had 17 PzKpfw IV medium tanks and 38 Panzer IV/70 tank destroyers operational at the time of the Ardennes offensive. II./PzRgt FBB, formerly StuGAbt 200, had 27 StuG III assault guns and 14 StuH 42 assault howitzers operational. A battalion of Panther tanks from Panzergrenadier-Division *Großdeutschland* had been allotted, but it did not arrive in time for the Ardennes operation.

Panzergrenadier-Regiment *Führer-Begleit-Brigade* was unusual in its composition, with Major Fabian's I.(SPW)/PzGrRgt FBB in a mechanized configuration with SdKfz 251 armored half-tracks, Major Hubert Mickley's II.(Schnelle)/PzGrRgt FBB in a motorized configuration using trucks, and Hauptmann Gaum's III.(Fahrrad)/PzGrRgt FBB in a bicycle-mobile configuration. The third battalion was an anomaly, formed around Grenadier-Bataillon zbV 928, formerly a *Landeschützen* (militia) unit on guard duty in France and manned primarily by overage troops. In contrast, the other two battalions of Panzergrenadier-Regiment *Führer-Begleit-Brigade* were recruited out of the elite *Großdeutschland* replacement pools. One of the main shortcomings of the *Panzergrenadier* component was that there was "no regimental staff for the Panzergrenadier Regiment and for that reason, the brigade had to command three different battalions which had been armed and organized in very different ways" (Remer 1947: 5).

Among the *Panzergrenadier* companies, one stood out: 11./PzGrRgt FBB. This had been organized in August 1944 as a special "close-combat company" for the personal defense of Hitler. Among its troops were no fewer than six men with the Knight's Cross and several more with the German Cross in Gold. Although they wore normal *Panzergrenadier* insignia, they were issued paratrooper helmets and the paratrooper's jacket and each was armed with the 7.92mm StG 44 assault rifle and a 9mm P 38 pistol. Another anomaly was 3./PzGrRgt FBB, which was recruited from the Waffen-SS.

The brigade's artillery component was Artillerie-Regiment *Führer-Begleit-Brigade*, formerly Artillerie-Regiment 120, with two batteries of towed 10.5cm howitzers and one battery of towed 15cm howitzers. Remer later complained that the artillery was obliged to use ordinary trucks rather than tracked vehicles, which limited their mobility in the muddy winter conditions. The brigade also had an oversized Luftwaffe *Flak-Regiment*, Flak-Regiment *Hermann Göring*, with four Flak batteries (six 8.8cm and three 2cm Flak guns) and three searchlight batteries, a holdover from its role at the Wolfsschanze.



The muddy conditions on the rural roads in the border area proved to be a major impediment to the German advance on the first days of the Ardennes offensive.

The battle for Rodt, December 20–23, 1944

MAP KEY

1 Morning, December 20: A *Kampfgruppe* based on I./PzGrRgt FBB heads into Nieder-Emmels after it is abandoned by the 17th Tank Battalion.

2 Dusk, December 20: The *Kampfgruppe* reaches Ober-Emmels around nightfall, but is hit by a heavy American artillery concentration and halts for the night.

3 Night of December 20/21: The *Führer-Begleit-Brigade* dispatches a raiding party under Major Hubert Mickley which infiltrates through the woods north of Rodt, reaching the road to Poteau. They set up ambushes and interdict the Poteau–Rodt road during the day.

4 2000hrs, December 20: The *Kampfgruppe Mickley* raiding party exits the woods and attempts to overrun the forward positions of the 275th Field Artillery Battalion outside Hinderhausen. They are beaten off and sustain heavy casualties.

5 Dawn, December 21: While Mickley stages his raid, II./PzGrRgt FBB attempts to join up with the main body of the brigade, but is badly disrupted by an artillery barrage while waiting west of Nieder-Emmels.

6 December 21: As the 7th Armored Division pulls back from St. Vith, it leaves behind rearguards to cover the withdrawal, including Task Force Stine to the northeast of Rodt.

7 Before dawn, December 22: When Panzer-Regiment

Führer-Begleit-Brigade heads down the road from Ober-Emmels to Rodt in the pre-dawn darkness, scouts discover the Task Force Stine roadblock. As a result, Oberst Otto Remer has his force move to the west and try to bypass Task Force Stine through the Frodervenn woods.

8 0440hrs, December 22: Elements of Panzer-Regiment *Führer-Begleit-Brigade* move out of the woods and reach the outskirts of Rodt where fighting begins.

9 0930hrs, December 22: The main body of Remer's force exits the woods and is brought under heavy fire from assorted US units in the fields to the west. As a result, the attack on Rodt is delayed.

10 1030hrs, December 22: As Remer's units make their way into Rodt from the northern side, the fighting inside the town intensifies.

11 1200hrs, December 22: Captain Davenport, leading the US forces inside Rodt, orders his dwindling forces to prepare to escape the town. The *Führer-Begleit-Brigade* secures the town around 1200–1300hrs.

12 0800hrs, December 23: The *Führer-Begleit-Brigade* moves out of Rodt but runs into a rearguard set up by Task Force Boylan which harasses the German columns as it withdraws to the southwest. Task Force Boylan crosses the Salm River after dark with the *Führer-Begleit-Brigade* in pursuit.

Battlefield environment

The autumn weather in Belgium had been wetter than usual and the soil was saturated and muddy. Temperatures for the first week of the offensive were slightly above freezing during the day, though often below freezing at night. There was a thaw on December 18, and the temperatures were not cold enough until December 22–23 actually to freeze the soil to any depth. This severely limited German mobility since vehicles, even tanks, became bogged down after they left the roads. The muddy fields channeled German attack forces down available roads, and made towns and road junctions such as St. Vith especially important. German schemes to bypass centers of resistance were impossible for the Panzer columns and their essential support vehicles.

Although the popular image of the Battle of the Bulge is of snow-covered terrain, in fact, snow cover was not predominant in the first week of the fighting. The first heavy snows arrived on December 22, depositing 2–3ft in some areas. The weather during the first few days of the fighting was characterized by clinging ground fog – especially in the early-morning hours – with frequent spells of rain or freezing rain, and occasional snow at night.

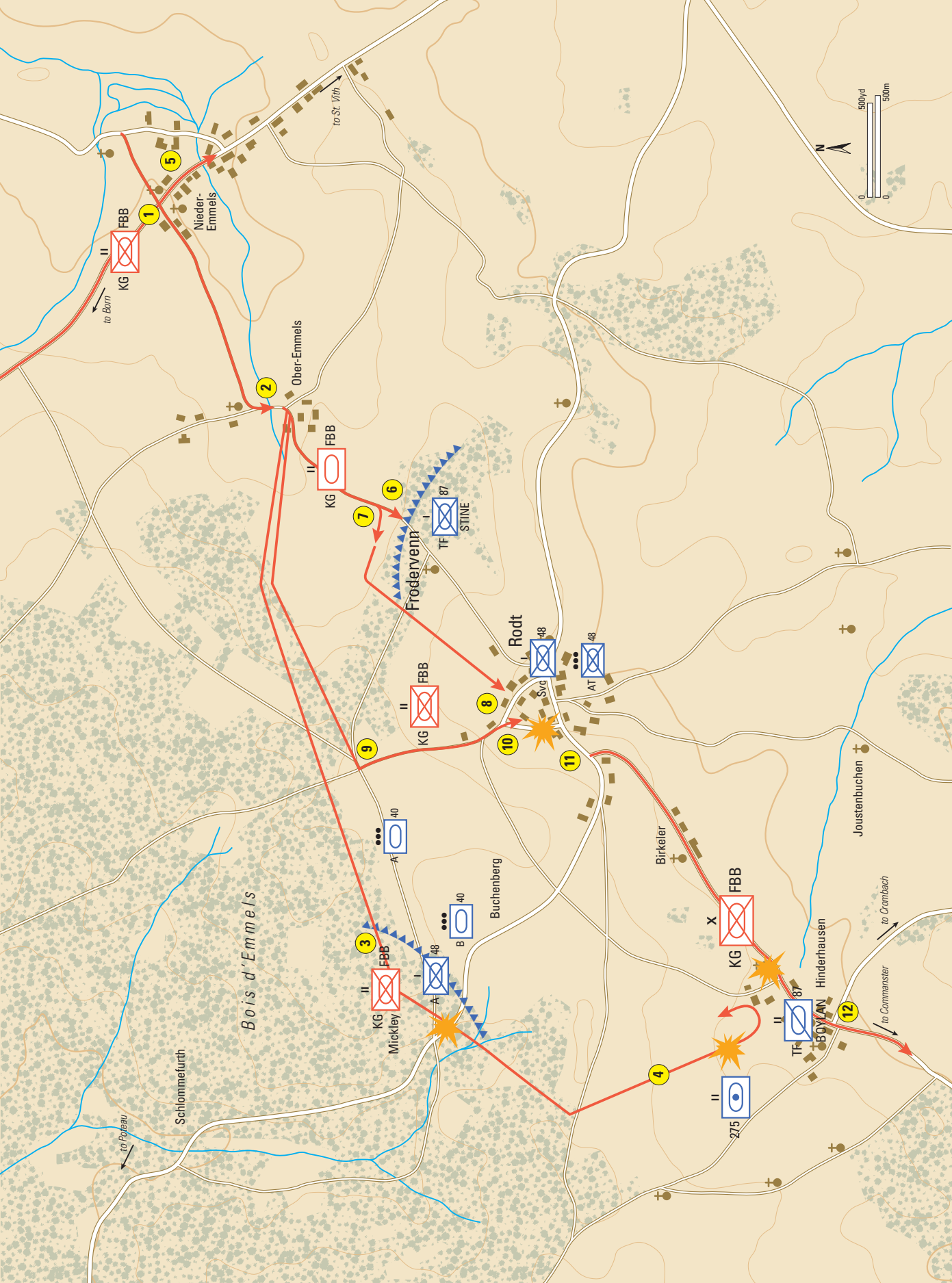
St. Vith was located in an open expanse of flat farmland surrounded by forest. To the northeast were the pine barrens of the Hohe Venn, including the Sankt Vither Wald immediately east of the town. On the western side of St. Vith was the Bois d'Emmels. The roads from the German border into Belgium were mostly graveled. While these were adequate for infantry, the tanks and tracked vehicles churned

them into glutinous mud trenches, trapping subsequent vehicle columns.

A point worth mentioning is that the towns in the area had multiple names. The St. Vith area was German speaking and so there were German, French, and sometimes Flemish place names for the various towns; Sankt Vith in German, Saint Vith in French.



The Belgian–German border in the Schnee Eifel region was dominated by pine forests, crisscrossed by narrow, graveled roads. When subjected to heavy vehicle traffic, these roads soon turned into muddy morasses due to the wet early winter conditions. This particular scene was photographed by the author in one of the woods north of Rodt near Poteau.



INTO COMBAT

The 7th Armored Division began moving from Übach, Germany on December 17 to reinforce the 106th Infantry Division. Although the initial intention was to counterattack, the German breakthrough in this sector led to an overwhelming flood of German units moving westward, including both 5. Panzer-Armee and 6. Panzer-Armee. As a result, Brigadier General Bruce Clarke's CCB, 7th Armored Division deployed for defensive action on the northeast side of St. Vith, while CCB, 9th Armored Division deployed on the southeast side of the town. CCA, 7th Armored Division was positioned to the northwest of St. Vith around Poteau and Recht, securing lines of communication back to American lines.

At 1600hrs on December 18, Remer was ordered to move the Führer-Begleit-Brigade from Daum to the front, a distance of about 30km. Remer traveled to the LXVI. Armeekorps headquarters outside of Prüm and met with corps commander General der Infanterie Walther Lucht to receive instructions. At the time, St. Vith was under attack by 18. Volksgrenadier-Division from the northeast, and 62. Volksgrenadier-Division from the southeast. Lucht instructed Remer that his mission was not to participate directly in the siege of St. Vith, but rather to attempt to accelerate the penetration farther west. The Führer-Begleit-Brigade set out on a nighttime road march along the road (now N626) through the Hohes Venn along the Eiterbach stream. The road was bounded by woods and the stream on either side, which in combination with the mud, ensured congested conditions. Remer arrived at 18. Volksgrenadier-Division headquarters at the Wallerode mill after dawn on Tuesday, December 19 and warned corps headquarters that the road conditions and congestion were so bad that the brigade would be delayed.

The brigade's advance detachment, consisting of a platoon of SdKfz 232 armored cars of Panzer-Aufklärungs-Kompanie *Führer-Begleit-Brigade* and a motorized company from II./PzGrRgt FBB riding on Volkswagen Kübelwagen and Schwimmwagen vehicles, finally arrived at the mill around noon, and continued down the road on route reconnaissance. The armored cars in the lead were hit by antitank fire on the bend of the road on the edge of the Prümer Berg woods, and the *Panzergrenadier* company was hit with artillery fire and suffered heavy casualties, stopping their advance. This probe convinced Remer that an attack emanating out of the Eiterbach road area would be dangerous, and that the proposed assembly in the fields west of the Auf der Höhe woods was too vulnerable. Remer claimed that he received contradictory instructions from Model's, Manteuffel's, and Lucht's headquarters as to whether the mission was to seize St. Vith or head farther west.

The advance detachment headed to the village of Medell northeast of St. Vith while Kampfgruppe *Mickley*, consisting of two dismounted *Panzergrenadier* companies from II./PzGrRgt FBB and an assault-gun company, headed to Wallerode. Remer ordered Kampfgruppe *Mickley* to support an attack by 18. Volksgrenadier-Division and about 200 dismounted *Panzergrenadiere* headed west out of Wallerode through the wooded Kninels Berg. They were spotted around 1300hrs by an outpost near Hunningen under Lieutenant Lee Mestas of the 2nd Platoon, Troop A, 87th Cavalry Reconnaissance Squadron. Mestas called in mortar fire from the squadron's heavy-weapons company and requested artillery support from a divisional forward observer. The ensuing barrage was estimated to have killed about 160

of the 200 men of the German force, and Mestas estimated that about 40 survivors withdrew. A patrol by CCB, 7th Armored Division later found some of the dead *Panzergrenadiere* in the area, wearing *Großdeutschland* armbands. The insignia confused American intelligence, which correctly believed *Panzergrenadier*-Division *Großdeutschland* to be on the Eastern Front.

The failed attack out of the Kninels Berg woods convinced Remer that it would be more prudent to skirt around St. Vith, and he instructed the remainder of the brigade to head north to Born before turning west toward Nieder-Emmels. The assault-gun company departed Wallerode for Born later in the day to join I./PzGrRgt FBB, which had entered the town earlier in the day.

On Tuesday, December 19, Model's Heeresgruppe B headquarters instructed Manteuffel that St. Vith was not to be bypassed, but captured. For the time being, the brunt of this mission fell on 18. Volksgrenadier-Division and 62. Volksgrenadier-Division, which were attacking CCB, 7th Armored Division and CCB, 9th Armored Division on the eastern and southeastern sides of the city, respectively. The initial attacks were largely fruitless, in no small measure due to the lack of artillery support. This was caused by the neighboring 6. Panzer-Armee barging into the 5. Panzer-Armee road network due to the poor road discipline of the *SS-Panzer-Divisionen*, especially 9. SS-Panzer-Division. Although steps were taken to rectify the situation, by December 20 it "had degenerated to a catastrophic extent" according to the chief-of-staff of 5. Panzer-Armee, resulting in enormous traffic jams.

Around dawn on December 20, I./PzGrRgt FBB, supported by an assault-gun company, pushed out of the woods around Born. Oberfeldwebel Lischak's I./PzGrRgt FBB sent a platoon on SdKfz 251 half-tracks through the woods, followed by the other two platoons on foot. On exiting the woods, they came under intense fire from US tanks, an outpost of CCA, 7th Armored Division, and suffered heavy casualties.

Kampfgruppe *Fabian*, consisting of elements of I./PzGrRgt FBB supported by tanks and assault guns, headed from Born to the west around Recht later in the morning. Recht had been held by the 17th Tank Battalion, but that morning the American unit was ordered to withdraw southward to Rodt, leaving the town at 0900hrs. The outposts heard the movement of Kampfgruppe *Fabian* but the American tanks had already departed before Kampfgruppe *Fabian* arrived in Recht.

That morning, other elements of I./PzGrRgt FBB headed down the road from Born to the southwest toward the village of Nieder-Emmels, arriving there after the 17th Tank Battalion had passed through. The only American forces remaining in the village were an outpost of M5A1 light tanks of the 2nd Platoon, Co. F, 87th Cavalry Reconnaissance Squadron, which withdrew down the road to join a defensive line being established by Co. A, 17th Tank Battalion. The *Kampfgruppe* continued on into Ober-Emmels around sunset,



Few images have survived of the 7th Armored Division during the December fighting for St. Vith. This shot of some riflemen of the 38th Armored Infantry Battalion comes from a short film-clip taken during the battle.

Otto Remer

Otto Remer was born on August 18, 1912 and joined the Reichswehr as a junior officer in 1932. He served in a *Schützen-Bataillon* during the campaigns in Poland in 1939 and Yugoslavia in 1941, and in February 1943 became a battalion commander, leading I./PzGrRgt GD. He received the Knight's Cross for the battalion's rearguard actions in the Kharkov campaign and the Oak Leaves to the Knight's Cross in November 1943. After being wounded, he was sent to command a *Großdeutschland* guard formation in Berlin. On July 20, 1944 during the Operation *Valkyrie* coup attempt against Hitler, Remer's troops were instrumental in regaining control of Berlin and he arrested many of the key plotters. Hitler elevated him in rank to *Oberst* and subsequently expanded the *Großdeutschland* guard unit to a brigade. After the Führer-Begleit-Brigade served in the Ardennes, it was expanded to a division. Remer's leadership of the Führer-Begleit-Brigade in the Ardennes and the Führer-Begleit-Division attracted the criticism of other officers. After the war, Remer was one of the founders of the neo-Nazi Socialist Reich Party which was banned in 1952. He fled to Egypt to avoid prosecution and subsequently became involved as a military advisor and weapons dealer to other Arab states including Syria. He returned to

Germany in the 1980s, founding another neo-Nazi party, but fled to Spain in 1994 after another conviction.



again missing the 17th Tank Battalion. Although Remer intended to continue the assault farther to the southwest into Rodt (Sart-lez-St.Vith), I./PzGrRgt FBB and its associated assault guns were hit by concentrated American artillery fire south of the villages and forced to a standstill. Further actions on Wednesday, December 20 were hampered by the continued entanglement of various elements of the Führer-Begleit-Brigade in traffic jams, exacerbated by fuel shortages. The prolonged idling of the vehicles and stop-go traffic led to fuel consumption rates three times higher than normal.

On the evening of Wednesday, December 20, Lucht's LXVI. Armeekorps headquarters instructed Remer to attack down the Nieder-Emmels–St. Vith road (N621) the next morning. Lucht hoped that this would undermine the defenses of CCB, 7th Armored Division from behind and accelerate the retreat of the 7th Armored Division from St. Vith. Remer decided to ignore the instructions, claiming that American forces would leave his flank vulnerable along the entire route. Instead, Remer chose a more cautious plan to proceed southwest to Rodt in the hopes of securing the Rodt–Vielsalm road (N675). Remer later wrote that “the road and terrain conditions had been my worst foe” and he was determined to secure a solid and useful road for farther movement west.

US artillery had been bombarding the Führer-Begleit-Brigade positions in Born and Nieder-Emmels, and Remer was informed that the source of this fire was an artillery battalion near Hinderhausen. While waiting for his forces to consolidate for the main attack, Remer decided to stage a raid in the hopes of silencing these guns. The raid was led by Major Mickley of II./PzGrRgt FBB and was made up of the elite assault troops of Schommer's 11./PzGrRgt

Bruce C. Clarke

Bruce C. Clarke was born on April 29, 1901 and dropped out of high school to enlist in the US Army in 1917. He attended the United States Military Academy and received his commission in the Corps of Engineers in 1925. He is credited with starting the Non-Commissioned Officers Academy system. In 1940, he led the 16th Engineer Battalion, the US Army's first armored engineer unit, and was instrumental in the development of the treadway bridge, widely used in World War II. He became the chief of staff of the 4th Armored Division in early 1942 and was assigned to lead the division's Combat Command A (CCA) on November 1, 1943. He was in command of CCA during the Arracourt tank battles in September 1944, and his outstanding performance there prompted Lieutenant General George S. Patton to push for his elevation to brigadier general in October 1944. Patton had been concerned about the leadership of the 7th Armored Division when it was under his command in September 1944 and the newly promoted Clarke was sent to command CCB, 7th Armored Division as part of a broader shakeup of its senior leadership at the end of October 1944. Clarke returned to the 4th Armored Division at the end of the war as its new divisional commander. During the Cold War years, Clarke went on to a series of higher commands at corps and army levels and eventually led US Army Europe and the Central Army Group of NATO.



FBB and another *Panzergranadier* company under Leutnant von Rautenstrauch. Numbering about 300 men, the group infiltrated along the edge of the Bois d'Emmels woods to the southwest. They reached the N675 near where it exited the Bois d'Emmels woods west of Rodt and set up a hasty ambush for any traffic. They captured several jeeps and trucks moving down the road from CCA positions north around Poteau toward Rodt. Several senior American officers including the executive officer of CCA, 7th Armored Division were captured in this fashion. CCA headquarters near Poteau caught wind of the roadblock from troops who had escaped the ambush. The roadblock cut off the 40th Tank Battalion in the Poteau area from its battalion aid station in Rodt, so a platoon of M4 tanks from Co. B was sent down the road to clear it. By the time they reached the area, Kampfgruppe *Mickley* had already abandoned the roadblock and continued farther southwest. The activity in this area also prompted CCA to dispatch Co. A, 48th Armored Infantry Battalion into the area late in the day to prevent any further interference in links between Poteau and Rodt.

Kampfgruppe *Mickley* exited the woods northwest of Hinderhausen toward the positions of the 275th Armored Field Artillery Battalion around 2000hrs. Emerging out of the forest after dark, they damaged the nearest M7 105mm HMC. Reacting quickly, the battalion commander, Lieutenant Colonel Roy Clay, ordered one battery of M7 HMCs to engage the *Panzergranadiere* with direct howitzer fire and their .50-caliber machine guns while the two other batteries kept up their fire-support missions. According to an American officer who was a prisoner of Mickley's group, the Germans

took very heavy losses. A light-tank platoon from Co. D, 17th Tank Battalion was dispatched to deal with the attack and caught many of the *Panzergranadiere* in the open, firing deadly canister rounds at them. About 25–30 grenadiers were driven into a house on the edge of the town. The light tanks attacked the building, starting a fire that burned it to the ground. In the meantime, the rest of Kampfgruppe *Mickley* had retreated back into the woods and eventually returned to the Führer-Begleit-Brigade.

The fighting on the eastern side of St. Vith on Wednesday, December 20 was the turning point in LXVI. Armeekorps' battle with the 7th Armored Division. The German field artillery had finally escaped from the traffic jams near the border and began to make its presence felt. An intense barrage of the town began at 1100hrs. Most of the German attacks were preceded by intense artillery fire, and the grenadiers of 18. Volksgrenadier-Division and 62. Volksgrenadier-Division attacked with little respite. For example, the positions of the 38th Armored Infantry Battalion (CCB, 7th Armored Division) were hit in five attacks that afternoon and three more during the late afternoon and early evening. The defensive line of CCB, 7th Armored Division was penetrated in at least three places by evening, with no replacements available. By 2200hrs, Clarke realized that the current positions were not tenable and decided to pull his forces out of the town, to the high ground west of St. Vith, beginning in the early hours of Thursday, December 21. Clarke estimated that he had lost almost half his strength in the day's fighting on December 20. He consulted with the 7th Armored Division headquarters and plans were made to ensure that an escape route would be kept open to the southwest past Rodt. By this time, the 82nd Airborne Division had arrived and set up a new defensive perimeter to the west of Rodt along the Salm River near Vielsalm.

Remer planned to press the attack toward Rodt on Thursday, December 21, but was frustrated again by the difficulty in moving his units forward under poor road conditions. II./PzGrRgt FBB had been deployed in a depression immediately west of Nieder-Emmels and before dawn on Thursday, it was hit by American field artillery and so disrupted that the main attack on Rodt had to be postponed. The brigade artillery did not arrive until late on Thursday, and then only after desperate measures had been taken to haul them through the mud, including the use of the half-track prime movers of Flak-Regiment *Hermann Göring*.

The revised plan for the Führer-Begleit-Brigade attack was for a *Kampfgruppe* of Panzer-Regiment *Führer-Begleit-Brigade* consisting of two Panzer companies and two assault-gun companies to push down the road from Ober-Emmels toward Rodt while the newly arrived III./PzGrRgt FBB would push through the Frodervenn woods near Tömm Berg and attack from north of Rodt. III./PzGrRgt FBB had left its bicycles behind in Born after they had become so mud-encrusted as to be useless. The continuing delays in assembling the attack force meant that it did not get under way until the early-morning hours of Friday, December 22.

The American withdrawal from St. Vith on the night of December 20/21 was accompanied by other defensive shifts along the 7th Armored Division perimeter. CCA, which had been defending the northwest sector around Poteau, began to shift some of its units southward and closer to Rodt as the neighboring CCB defenses contracted. This increased the defenses now facing



Kampfgruppe *Mickley* attempted to silence the 275th Armored Field Artillery Battalion by staging a raid near Hinderhausen on December 20, but the attack was beat off with the assistance of a platoon of M5A1 light tanks. This shows one of the M7 105mm HMC of the battalion's Battery B a week later near Manhay.

Remer's brigade. When the 17th Tank Battalion withdrew from its northern positions around Recht on the morning of December 20, it left behind two platoons of M4 medium tanks on the southern side of the Frodervenn woods to the northeast of Rodt to form a security screen while the remainder of the battalion took up concentric defensive positions around Rodt. This defense line was about 1,000yd in length, or roughly one tank per 100yd, and could not be adequately patrolled by tanks alone. As a result, a platoon of infantry from Co. C, 38th Armored Infantry Battalion was attached with two to three riflemen assigned to each tank to set up a defensive perimeter. Since there were plans to eventually withdraw the 17th Tank Battalion farther down the road to Hinderhausen, the two tank platoons and associated riflemen were attached to Task Force Stine, under Captain Harlan Stine, the commander of Co. F, 87th Cavalry Reconnaissance Squadron. The original composition of Task Force Stine was a platoon of infantry and three to four M5A1 light tanks, so the additions substantially increased its strength.

Task Force Stine covered the intersection between CCA and CCB in the Rodt sector, but there was little coordination between the two commands due to the fluid and chaotic conditions. On the left was a small force from CCA consisting of Co. A, 48th Armored Infantry Battalion on the edge of the Bois d'Emmels woods, while to the right were elements of the 31st Tank Battalion. Rodt had served as the rear area for a number of units from CCA and CCB including the Service Company, 48th Armored Infantry Battalion under Captain Davenport, and the battalion aid station of the 40th Tank Battalion. The antitank platoon of Co. B, 48th Armored Infantry Battalion supported by a platoon of Co. A, 33rd Armored Engineer Battalion had been located south of the Co. A, 48th Armored Infantry Battalion positions since December 18, but during the fighting on December 22, they had moved to new positions on the southern fringe of Rodt, covering the motor-park area. They were supported by four M4 tanks of Co. A, 40th Tank Battalion. Some of the units in Rodt had already been instructed on the night of December 21 that they were to withdraw southward the next day to Crombach.





The road to Rodt



German view: In the pre-dawn light on the morning of Friday, December 22, Oberst Otto Remer led a *Kampfgruppe* of Panzer-Regiment *Führer-Begleit-Brigade* down the road to Rodt. The weather was snowy, typical of early winter, but the ground was still not frozen and so remained muddy in the farm fields. When the German troops exited the woods, there was considerable ground fog. The *Panzergranadiere* accompanied the Panzer IV/70

tank destroyers of Panzer-Regiment *Führer-Begleit-Brigade*, mostly on foot, though some rode atop the vehicles. The main body of Remer's force exited from the woods around 0900hrs and the German grenadiers "shouted, whistled, and sang" according to American accounts of the fighting. It was a typical German infantry practice to instill unit cohesion.



US view: On the American side, Lieutenant Herbert Borchers's platoon of four M4 medium tanks from Co. A, 40th Tank Battalion spotted the grenadiers emerging from the woods around 0930hrs and took them under fire. The infantry from the 49th Armored Infantry Battalion were entrenched in foxholes dug into the farm fields. They immediately called in artillery fire which began to strike the German column. Some of the *Panzergranadiere*

managed to escape the firefight and reach the village of Rodt where another *Panzergranadier* company had infiltrated earlier in the morning. The collapse of the defenses inside Rodt in the late morning led Combat Command A to order the infantry-tank defenses outside Rodt to withdraw, allowing the remainder of Remer's *Kampfgruppe* finally to reach the village by early afternoon.

Before dawn on Friday, December 22, Remer led the *Kampfgruppe* of Panzer-Regiment *Führer-Begleit-Brigade* down the road to Rodt. This consisted of 2. Kompanie, I./PzRgt FBB and the assault guns of 2. Batterie, II./PzRgt FBB. The spearhead reported that the road was heavily defended by American armored vehicles where the road reached the Frodervenn woods immediately outside Rodt. This was the Task Force Stine roadblock consisting of M4 tanks of the 2nd Platoon, Co. A, 17th Tank Battalion. Remer ordered the column to attempt to skirt the roadblock by passing through cuts in the Frodervenn woods on the western side of the road, but in the process, some of the German armored vehicles became bogged down in the glutinous mud. In the dark, progress was very slow since the tanks and assault guns had to be led through the woods by scouts on foot. To complicate matters further, mines were discovered near the edge of the woods which had to be cleared. While the Panzer columns haltingly moved down the road, the *Panzergranadiere* of Gaum's III./PzGrRgt FBB moved through the woods. Snow had been falling since the previous evening, and visibility was often no more than 100yd. The plan was for a company of III./PzGrRgt FBB to infiltrate the town first, at which point the other two companies would accompany the main Panzer force into the town.

The German attack began around 0400hrs on the western side of the town. According to American accounts, the *Panzergranadiere* "shouted, whistled, and sang." The antitank platoon of the 48th Armored Infantry Battalion opened fire, inflicting heavy casualties. The larger German force was able to fight its way into the town, however, capturing the antitank platoon command post and their headquarters half-track. The tanks of Co. A, 40th Tank Battalion intervened and began shelling the German infantry in the houses. One tank was hit six times by *Panzerfaust* fire without being disabled. By dawn, the initial German company had not been reinforced, and some of the *Panzergranadiere* began to withdraw from the town. The American tanks began systematically clearing the houses, and also pursued the German infantry back to the woods north of the town. Task Force Stine sent some of its riflemen from the roadblock back toward the town to help with the clean-up. The German battalion commander, Hauptmann Gaum, was apparently captured during this initial skirmish.

Remer's Panzer column finally exited the woods in front of Rodt around 0900hrs and began to advance on the town along with the two other companies of *Panzergranadiere*. Lieutenant Borchers' platoon from Co. A, 40th Tank Battalion spotted the *Panzergranadiere* emerging from the woods around 0930hrs and took them under fire. This tank platoon was reinforced by Lieutenant Fielder's platoon from Co. A and Lieutenant Rider's platoon from Co. B. The flanking fire from these tanks kept Remer's tanks bottled up in the woods except for a few that had already reached the outskirts of Rodt.

The fighting inside Rodt lasted for about three hours, pitting the Panzers and *Panzergranadiere* against Davenport's Service Company of the 48th Armored Infantry Battalion, the antitank platoon, and assorted other troops. Most of the cooks and clerks on the American side were lightly armed with carbines, and they lacked the usual assortment of heavier infantry weapons.

Before the fighting intensified in Rodt in mid-morning, Captain Stine and his attached riflemen had already returned to the crossroads to find that the

M4 medium tanks of Co. A, 17th Tank Battalion had pulled out to join the rest of their battalion. Mounting up on the M5A1 light tanks, they trailed behind, but found that a few of the M4s had become bogged down in the deep mud in the fields south of Rodt. They were largely unaware of the actions inside Rodt due to the fog.

The fighting inside Rodt continued until noon. Before noon, Captain Davenport consolidated the numerous German prisoners and ordered the surviving American troops to withdraw southward to Crombach. Co. B, 48th Armored Infantry Battalion was also instructed to withdraw southward toward Crombach, as their associated companies in the Poteau area to the north were heavily engaged in a separate battle with German forces in the area. Other elements of CCA including the platoons of the 40th Tank Battalion were instructed to withdraw north back to Poteau.

The Führer-Begleit-Brigade secured Rodt around 1200–1300hrs. Remer's account indicates that about 50 prisoners were taken and that 20 tanks were knocked out or abandoned. The latter figure is doubtful; more likely, this number includes half-tracks that were destroyed or left behind in the battalion motor-pool. Remer made no effort to pursue the retreating American columns. The late-arriving II./PzGrRgt FBB was instructed to block the road to Vielsalm, and much of the afternoon was spent trying to recover the numerous vehicles that had become trapped in the frozen mud and snow during the early-morning advance.

News of the German capture of Rodt was very unwelcome at Clarke's CCB headquarters because this town and the neighboring Hinderhausen were vital junctions in a planned escape route toward the Salm River. Clarke had been arguing with the corps commander, Major General Matthew Ridgway, that immediate withdrawal was imperative given the losses suffered over the previous several days of fighting and the lack of reserves. Furthermore, the capture of Rodt separated CCA from CCB. Clarke had already ordered all non-essential vehicles to begin the evacuation east earlier in the day. Field Marshal Bernard Montgomery, who had recently taken over control of this sector from the First US Army, overruled Ridgway and authorized the 7th Armored Division to fall back over the Salm River.

Clarke assigned the task of reestablishing a connection between CCA and CCB to Task Force Boylan, led by the commander of the 87th Cavalry Reconnaissance Squadron, Lieutenant Colonel Vincent Boylan. Clarke also shifted Co. C, 814th Tank Destroyer Battalion to this sector with one platoon deployed in a defensive perimeter outside of Crombach and the other platoons attached to Task Force Boylan. The task force included 50–60 riflemen from Co. C, 23rd Armored Infantry Battalion and Co. C, 38th Armored Infantry Battalion, seven M36 90mm GMC tank destroyers from Co. C, 814th Tank Destroyer Battalion, two platoons of M5A1 light tanks from Co. F, 87th Cavalry Reconnaissance Squadron and Co. D, 17th Tank Battalion, and 11–12 M4 medium tanks from Co. A, 17th Tank Battalion.

Although the Führer-Begleit-Brigade remained largely idle on the evening of December 22, LXVI. Armeekorps continued its push west from St. Vith, sending infantry from 62. Volksgrenadier-Division along the rail-line toward Crombach. German infantry broke into the town on the night of December 22/23, and Clarke was obliged to evacuate his headquarters to Commanster farther to the east. Clarke received permission to retreat over the Salm River



Several vehicles of Panzer-Regiment *Führer-Begleit-Brigade* still littered the roads near Rodt in January 1945. The two to the left are StuG III assault guns, probably from II./PzRgt FBB, with a StuH 42 assault howitzer farther to the left. The overturned vehicle appears to be a *Schwimmwagen*.

at 0530hrs on December 23. By this stage, elements of CCB in the Hinderhausen area had been cut off from those in Crombach and farther south. Task Force Boylan served as a rearguard to block Remer's farther advance while the CCB units withdrew. Fortunately for the Americans, the temperatures had dropped that night to below freezing, and the muddy and impassable country road to Commanster became frozen and passable.

The *Führer-Begleit-Brigade* restarted its advance down the road to Hinderhausen at 0800hrs on Saturday, December 23. They ran into the rearguards of Task Force Boylan. The tank destroyers claimed to have knocked out three PzKpfw IV and one Panther; Remer acknowledged the loss of two tanks. Task Force Boylan lost or abandoned two M36 tank destroyers, three M4 medium tanks, and a few M5A1 light tanks during the fight for the roadblock. Once the rearguard withdrew, Remer reconfigured his spearhead, switching from Panzer-Regiment *Führer-Begleit-Brigade* to II./PzGrRgt FBB supported by a company of StuG III assault guns. This force ran into Task Force Boylan again in Commanster, with the 2nd Platoon, Co. C, 814th Tank Destroyer Battalion claiming to have knocked out one PzKpfw IV and a Panther, while losing one M36; two M4s were also lost. Boylan attempted to delay the *Führer-Begleit-Brigade* as long as possible since the roads westward were jammed with retreating American traffic. Some artillery support was received, and Boylan directed the fire against the swarms of German vehicles passing through Hinderhausen. The *Führer-Begleit-Brigade* continued in pursuit of Task Force Boylan to Rogery and finally halted after encountering another rearguard at Cierreux near the banks of the Salm River. Task Force Boylan crossed the Salm River at Vielsalm after dark, with Lieutenant Colonel Boylan the last man over the bridge at 1926hrs. With the chase over, the *Führer-Begleit-Brigade* was removed from control of LXVI. Armeekorps for reassignment to a new sector of 5. Panzer-Armee late in the day.

The *Führer-Begleit-Brigade* had little impact on the fighting for St. Vith, and its performance was unexceptional in view of its resources. The American defense of St. Vith had been overcome by the obstinate struggle of the two poorly equipped *Volksgrenadier-Divisionen* of LXVI. Armeekorps. Remer's advance displayed none of the relentless dash of neighboring German Panzer units which pressed on in spite of the terrain difficulties. The *Führer-Begleit-Brigade* was stopped time and again by small improvised task forces of CCB, 7th Armored Division.

Analysis & Conclusion

Tactical innovation in the Wehrmacht began to decline after the invasion of the Soviet Union in 1941 due to the enormous demands of waging war on too many fronts. Mechanization of the *Panzergrenadier* force never reached its intended goals and the Wehrmacht never achieved the same depth of infantry motorization and mechanization as the US and British armies in World War II. *Panzergrenadier* units in France in the summer of 1944 were still a highly effective force in spite of the paucity of equipment due to the extensive combat experience of the NCOs and officers. The performance of these units was undermined, however, by the overwhelming weaknesses of the Wehrmacht by 1944. They were frequently employed in hopeless defensive missions, with the destruction of the Panzer-Lehr-Division in June–July 1944 being a prime example. They never fully

US Army doctrine favored dismounted tactics for armored infantry in most circumstances. Here, a squad from Co. C, 61st Armored Infantry Battalion (CCA, 10th Armored Division) move forward on foot after having been taken under fire near Bubenorbis on the approaches to Schwäbisch Hall on April 17, 1945.





A US infantry patrol passes by a StuG III assault gun of II./PzRgt FBB near Nieder-Emmels on January 23, 1945 during the US drive to recapture the St. Vith area. This assault-gun battalion had formerly been StuGAbt 200 before being attached to the Führer-Begleit-Brigade.

recovered from the losses in the summer of 1944. Even a favored unit such as the Führer-Begleit-Brigade was still using bicycles in the Ardennes campaign.

The US Army was able to take advantage of its considerable industrial resources fully to mechanize its armored-infantry battalions. More importantly, doctrinal changes in 1942–43 reinforced combined-arms integration through the use of combat commands. This tactical innovation proved instrumental in enhancing the offensive capabilities of US armored divisions in the 1944–45 campaigns in the ETO.

Panzergrenadier and armored-infantry battalions were better suited for offensive assignments than defensive assignments, as is evident from the three battle examples presented in this book. There was nothing inherently wrong with the use of mechanized infantry in defensive assignments except that the *Panzer-Division* and US armored division did not have enough riflemen when compared to conventional infantry formations. The success or failure of these units usually depended on whether the senior commands used them for missions appropriate to their capabilities. In 1944–45, the *Panzergrenadier* force was often condemned to impossible missions due to the desperate circumstances facing the Wehrmacht.

The half-track did not solve the problem of infantry mechanization. Half-tracks were better than trucks in combined-arms battles, but they were still not as mobile as tanks in soft ground conditions. Most armies abandoned the half-track after World War II in favor of tracked vehicles that were closer in mobility to tanks. The US Army began to adopt tracked armored personnel carriers (APCs) in the late 1940s, though they did not become the predominant infantry transporter until well into the 1950s. This trend was further reinforced by the advent of the nuclear battlefield which burdened the foot soldier with new and fearsome threats. The *Panzergrenadier* force of the postwar Bundeswehr followed much the same path. The issue of infantry mechanization remained controversial through the present. Should infantry vehicles be as heavily armored as the tanks they accompany? Can any army afford to procure and operate such expensive vehicles? These controversies are an echo of debates going back to the early 1940s and the infancy of infantry mechanization.

UNIT ORGANIZATIONS

*Panzergranadier-Regiment*⁴

The *Panzergranadier-Regiment* was reorganized under the Type 1944 KStN. Among the major changes was the reduction from 11 to ten companies, disbandment of the Flak company and incorporation of Flak elements into the *schwere-Kompanie* (heavy company), and consolidation of the supply section within each company into a *Versorgungs-Kompanie* (Supply Company) under battalion command. Each *Panzergranadier-Bataillon* had four companies consisting of three *Panzergranadier* companies and a heavy-weapons company. Within a regiment, the companies of I. Bataillon were numbered 1–4 while those of II. Bataillon were numbered 5–8. The regiment's 9. *Kompanie* was an *Infanterie-Geschütz* (infantry gun) company, while 10. *Kompanie* was the *Pionier-Kompanie*.

A *Panzergranadier-Bataillon (gep.)* had a heavier complement of weapons than a *Panzergranadier-Bataillon (mot.)* since the half-tracks were usually fitted with an organic light machine gun lacking on trucks. This meant the half-track battalion had 105 light machine guns while the truck battalion had only 60. Half-track battalions had 21 2cm Flak guns (SdKfz 251/17 or 251/21) while the truck battalions had only six towed 2cm Flak guns. Half-track battalions had 12 7.5cm infantry guns (SdKfz 251/9) while the truck battalions had none. The *Panzergranadier-Bataillon (mot.)* was organized in the same fashion as the half-track battalion, but substituting trucks for half-tracks. This meant a motorized battalion had 143 trucks and 25 motorcycles while the half-track battalion had 87 half-tracks, 71 trucks, and 24 motorcycles.

The *Panzergranadier-Bataillon (gep.) Stab* had five SdKfz 251 half-tracks, three of which were radio-equipped *Kommandopanzerwagen*. The three basic companies had a *Kompanie-Trupp* with two radio-equipped SdKfz 251 and one 2cm Flak SdKfz 251. Each company had three rifle platoons (1.–3. Zug), each with three SdKfz 251 troop carriers and one 2cm Flak SdKfz 251. 4. (*schwere*) Zug had a single command half-track, a Flak und s.MG Gruppe with three 2cm Flak SdKfz 251, a Granatwerfer (mortar) Gruppe with two SdKfz 251 half-tracks and 8cm mortars, and a Kanonengruppe with two SdKfz 251/9. The various 2cm Flak half-tracks were variously the SdKfz 251/17 or the preferred 2cm Drilling SdKfz 251/21; in practice, many units did not have a full complement of these specialized vehicles. In total, the half-track *Panzergranadier-Kompanie* had 21 half-tracks, four trucks, and two motorcycles. In terms of troop strength, the half-track battalion had 26 officers, 168 NCOs, and 673 troops (867 total); the motorized battalion was only slightly different with 868 personnel in total.

US armored-infantry battalion⁵

A US Army 1943-pattern armored-infantry battalion consisted of five companies: a HQ company, three rifle companies, and a service company. The battalion HQ included a company HQ, reconnaissance platoon, three M8 75mm HMC assault guns, three M4 81mm self-propelled mortars on halftracks, a heavy-machine-gun platoon, and a maintenance section.

The rifle company had a company HQ platoon, three rifle platoons, and an antitank platoon. The company HQ included two jeeps, two supply trucks, and two half-tracks. Each rifle platoon included five half-tracks, three of which carried rifle squads, one of which carried the 60mm mortar squad, and one of which carried the light-machine-gun squad with two additional .30-caliber machine guns. In general, each half-track was fitted with a .30-caliber machine gun, except for the platoon leader's half-track which was authorized a .50-caliber heavy machine gun; in practice, many half-tracks substituted .50-caliber machine guns. The 1942 armored-infantry company had a towed 37mm antitank gun in each rifle platoon, but the new 1943-pattern companies moved these to an antitank platoon with three 57mm antitank guns towed by half-tracks. The infantry platoons were strengthened by raising the squad size from 11 to 12 men and adding an M1 2.36in rocket launcher (bazooka) to each squad. This meant a 1943 company had 251 troops and 20 half-tracks while the 1941–42 company had 178 men and 17 half-tracks. The US Army armored-infantry battalion was somewhat larger than its German counterpart in terms of personnel, with 1,062 officers and men compared to 867.

4 For further details, see: Pier Paolo Battistelli (2009). *Panzer Divisions 1944–45*. Battle Orders 38. Oxford: Osprey.

5 For further details, see: Steven J. Zaloga (2004). *US Armored Divisions, The European Theater of Operations 1944–45*. Battle Orders 3. Oxford: Osprey.

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Heer records at NARA II can be found in the Record Group 242 microfilm collection. These include *Tagesmeldungen* (daily reports), *Kriegstagebücher* (KTB: war diaries), and other reports. The coverage of these documents is spotty, with some units having many surviving records and other units having few or none. I used an assortment of these including those from OB West, Generalinspekteur der Panzertruppen, General der Panzertruppe OB West, Panzer-AOK.5 and LVIII. Panzerkorps. The journal of the Panzerwaffe published in 1943–44, *Nachrichtenblatt der Panzertruppen* (News Sheets of Armored Troops), has many interesting articles on *Panzergrenadier* tactics and is also available in RG 242. The US Army's Foreign Military Studies collection was prepared after the war by senior German officers under the sponsorship of the US Army Center of Military History. Since these officers were in many cases still in prisoner-of-war camps, they had little or no access to unit records. They are especially valuable in gaining the officers' impressions rather than in obtaining detailed day-to-day accounts.

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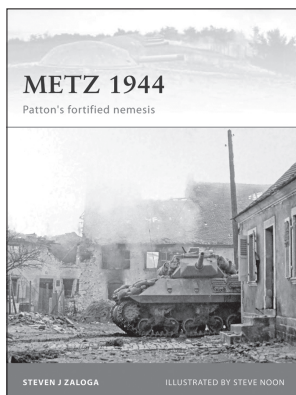
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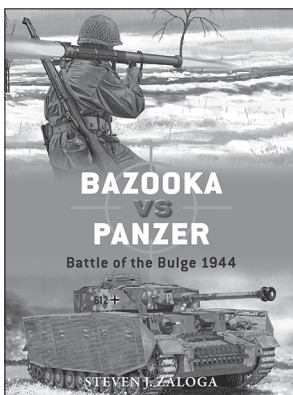
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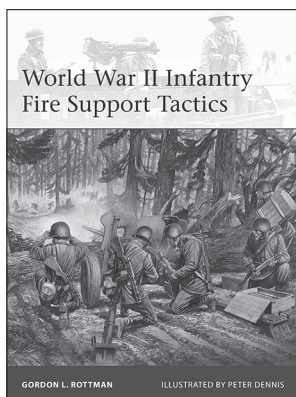
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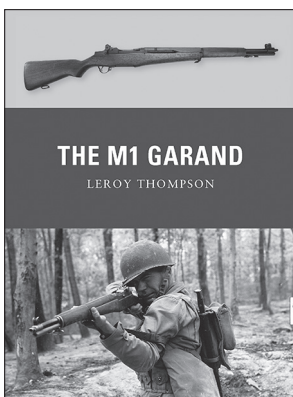
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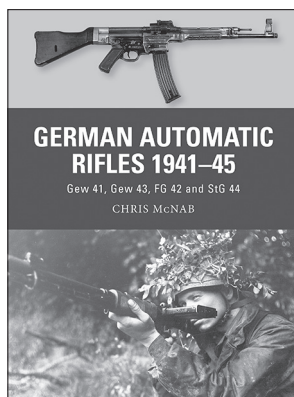
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